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PORTABLE STEAM ENGINES.

This week, in continuation of our series of illustrated descriptions of Portable Steam Engines, we present that of J. C. Hoadley, & Co., of Lawrence, Massachusetts. Mr. Hoadley the inventor of the Portable, Steam Engine to which his name has been given, had large experience in designing and constructing stationary steam engines, before he turned his attention to building locomotives, of which nearly one hundred were built at the Lawrence Machine Shop, under his superintendence, from 1852 to 1857. While still in that position, he commenced the construction of a class of small engines for stationary purposes, light, compact and portable, embodying so far as was practicable the approved principles and proportions of the American locomotive, coupled with the leading ideas of the eminent British engineer, Mr. Fairbairn, who recommended "economy of construction, lightness and completeness, giving portability on the one hand, and on the other, economy of fuel, to be attained by the combination of high pressure, expansion and condensation."

He has succeeded. Nearly three hundred engines have been sold. They have gone into nearly every State of the Union—to Canada, Turkey, Egypt and Russian America, where they have well satisfied their purchasers. The manufacturers claim for it, cheapness, simplicity, lightness, durability, efficiency and convenience. Each size is a carefully studied, well-proportioned locomotive, so far as boiler, cylinder, valve-motion and steam blast are concerned, and they can be worked with ease and safety, by good attention and diligent firing, to double the power at which they are rated. The accompanying beautiful cut exhibits the easy manner in which they can be transported by oxen across the plains to the mining regions, or from district to district.

HOADLEY'S PORTABLE STEAM ENGINE.

Yield of the Precious Metals.

It would appear, says a contemporary, that the following is not an exaggerated estimate of the yield of gold and silver in the United States, for 1866:

California	$25,000,000
Montana	18,000,000
Idaho	17,000,000
Colorado	17,000,000
Nevada	16,000,000
Oregon	8,000,000
Other sources	5,000,000
Total	$106,000,000

This would be by far the largest yield of the precious metals ever obtained in the United States, in a single year, but from the statements given above there is no reason to believe that our estimate is too high, while Colorado and Montana may possibly largely exceed the amounts we have assigned them. Add to these the product of Australia, about $20,000,000; of Russia, say $15,000,000; of Mexico and South America, (silver) about $15,000,000; and from all other sources, $5,000,000, and we have the immense quantity of one hundred and sixty-one millions of the precious metals, as the total supply for the year of grace 1866. Thirty years ago, the total supply was less than twenty millions per annum, which was then sufficient for the necessities of commerce.

New Iron Preserving Agent.

Dr. Henry Edward Francis de Brion, a Parisian physician, who for many years has resided in England, has discovered and patented a process for preparing from india-rubber, what may be designated an "enamel paint," which is said to be proof against the action of the atmosphere, as well as against the power of all liquids, to effect iron. This enamel paint possesses all the remarkable qualities of india-rubber, without combining with them any other substance or element that is calculated in the slightest degree to counteract their thoroughly efficient operation. The preparation is applied cold and in a liquid state, and in consistency and general appearance, it resembles such common oil paint as is ordinarily used for iron work. It may be applied with ease. The covering may be so thin that its presence cannot be detected, while it leaves the protected surfaces in all their original sharply defined freshness. It hardens also at once, and immediately forms a smooth and lustrous enamel-like covering, air-proof, damp-proof, waterproof, and acid proof. Thus protected, the iron is safe. Rust cannot accumulate upon the surface of this enamel paint, nor corrode beneath it.—*Art Journal.*

Why Solids Float on their Liquids.

A correspondent of the *American Artisan* says as to the phenomenon of solids floating upon their own liquids: "I think the true reason is this: when the cold solid mass of iron strikes the molten, the former instantly congeals a thin coat or skin around itself; between this coat and the cold iron there is a space, and this space is filled with air or gas, which causes the cold iron to float—in fact it has made itself a boat to float on the molten iron."

Use of Soapstone.

In Germany, soapstone, or "steatite," is cut into pieces of any desired form, then placed in a crucible heated to redness, and afterwards allowed to cool in a very gradual manner. Steatite, without having become hard or brittle by this operation, has acquired sufficient consistency to admit of its being worked without any difficulty; and such is the facility of manufacturing it, that it has found numerous applications, such as the making of buttons, cameos, and gas burners. To give solidity and durability to articles made from steatite, in the manner we have described, it is necessary that we should expose them to a red heat for a few hours, when they become very hard. Articles made from steatite may be polished by the employment of emery, tripoli, or oxyde of tin; and when impregnated with a solution of silver, and then subjected to a high temperature, they acquire a high lustre.—*Jour. App. Chem*

The British Channel to be Tunneled.

A tunnel under the British Channel, is, according to the French papers, being planned. A number of surveyors and sailors, under the direction of M. Thome de Gamond (ominous name!) have lately passed through Boulogne, in order "to operate the last verifications of the project." It is said that the nature of the submarine banks of rocks offers no insurmountable difficulty to tunneling machines. *Cosmos* asserts that M. de Gamond has been working for some years at the project, and that he has more especially "recognized that it was not necessary to establish, at a necessarily great cost, the artificial islands which appeared in the first scheme." The borings can take place at four simultaneous galleries, the largest of which need not exceed ten kilometers. The plans of this enterprise, and of the scientific investigations belonging to it, will figure in the Universal Exhibition of 1867. We need scarcely say that we consider Mr. Fowler's project of a steam ferry across the channel as much more feasible and practical.—*Engineer.*

THE TARIFF ON METALS AND MINERALS.

The New Tariff bill is now published. Among the changes affecting minerals and the products thereof, are the following:

Salt now pays, in bulk, 18 cents, and in sacks, 24 cents, per 100 pounds. It is raised to 30 cents in bulk, and 40 cents in sacks, per 100 pounds. Copper ore is raised from 5. to 15 per cent. *ad valorem;* copper in pigs, ingots or bars is raised from 2½ to 5 cents per pound; copper sheathing now pays 3½ cents, and is to pay 6 cents per pound. Brass, in pigs and bars, now pays 15 per cent., and is raised to 30. Lead, in pigs or bars, is raised from 2, to 3 cents per pound; lead ore is raised from 1½, to 2½ cents per pound; lead sheets, pipe and shot are raised from 2¾, to 3½ cents per pound. Zinc, in pigs or blocks, now pays 1½ and is raised to 2½ cents per pound; in sheets it now pays 2½ cents, and is raised to 4; oxide of zinc now pays 1¾ cents, and is raised to 3 cents per pound. On bituminous coal produced in British America there is a reduction from $1 25 per ton, the present rate, to 50 cents per ton. On steel wire the duty is raised from 2½ to 3 cents per pound with 20 per cent. *ad valorem*, for the different sizes, to 5 and 6 cents, with 20 per cent. *ad valorem*. On steel in bars, sheets, &c., &c., the present duty is raised from 3 and 3½ cents to 5 cents per pound, and 10 per cent. *ad valorem*. On all railway bars made by the Bessemer and pneumatic process, 2½ cents per pound; on steel, in any form, and on manufactures of steel of every description not otherwise herein provided for, 45 per centum *ad valorem*. Among the changes in regard to iron we may enumerate: Anvils, raised from 2½ to 4 cents per lb.; bars for railroads, from 70 cents per 100 lbs. to 1 cent per lb.; cables, from 2½ cents per lb. to 3 and 3½ cents per lb.; chains, from 2½ and 3 cents to 4 and 5 cents per lb.; chains of less than No. 9 wire, from 35 per cent. to 5 cents per lb., and 20 per cent.; hammers, from 2½ cents to 4 cents per lb.; plate iron, from 1¼, 1½ and 1¾ cents per lb. to 1¾, 1¾, 2, 2¾, 2½ and 2¾ cents per lb.; slabs and blooms, from 1 cent to 1¼ cent per lb.; screws, from 35 per cent. to 40 per cent.; scrap iron is lowered from $8 per ton to $5. Wrought tubes are raised from 3½ to 4 cents per lb.; wire, coppered or tinned, from 2 cents. 2½ and 4 cents per lb., and 15 per cent., to 5, 5½ and 6 cents per lb. Pig iron remains at $9 per ton. Bar iron, ordinary sizes, 1¼ cents per pound; iron bars for railroads or inclined planes, ready to lay down, 1 cent per lb.

The bill was ordered to be made the special order for Thursday next, and from day to day until disposed of.

Waste of Coal.

Welch mining engineers estimate that over thirty per cent. of coal is lost in mining. Much of it is in fine dust. There are patent processes to make it into blocks; but their costs is so great that they are little used. In Scranton, Pa., the coal-dust is a great nuisance; and there is much dust in all coal-yards. Being baffled in attempts to work up coal-dust into lumps, the question is whether we cannot adapt furnaces to burn the dust. We have seen it burned by blowers, in a rude way, which is of little use; but this is not the question mooted. What we want is a process that burns it well, and with a moderate draught. This, we think, can be done by sifting the coal into the upper part of the furnace, mixed with air. The coarser particles will fall upon a fine grate, through which there will be a regulated draught; but the dust will burn as it falls, and never touch the grate. We have seen carbonaceous powders burned while suspended in air, and they flashed like gas; an intense fire may be made in this way if skill be exercised, and the problem is to proportion the furnace, the draught, and the feed of dust, so as to produce perfect combustion of all the fine particles before they fall to the bottom. The conceivable saving is not limited to that of thirty per cent. of the weight of the coal in the mines. There are cases in which the flaming combustion attainable by mixing air through the fuel, instead of merely bringing it in contact with the surfaces of lumps, will save room in furnaces, and thus be of great advantage. In steam boiler furnaces, where the grate-room is limited, it may be advantageous. We think inventors may find piles of money in the piles of coal-dust that need to be carted off.—*American Artizan.*

Smelting Iron.

In a paper recently read to the Association of Foreman Engineers, of London, Mr. Oubridge traced the history of iron smelting from the very earliest periods, in the course of which he said that the great secret of economical and effective smelting consisted in obtaining for the purpose, a rapid current of common air, so as to produce complete combustion of the fuel employed; and the speedy creation of a large quantity of carbonic oxyde gas, was the consequence of such an arrangement. The blast pipes should in all cases fit the tuyere holes closely, so as to prevent the waste of air, and to direct the full force of the current into the furnace. It was also desirable to adopt what was known as the "drop bottom" in furnaces, so much used in America, and he was sorry to say as yet so seldom adopted in this country. It was desirable to lessen, as far as possible, the expenditure of manual labor, and this last arrangement was essentially a step in that direction. After a man had been engaged in working a furnace for several hours, it was rather hard to give him the task of raking it out and quenching it. By means of the drop bottom, this might be accomplished in a few minutes, whereas it was a laborious and tedious process in the other case, and much more costly.

Mining Summary.

Michigan.

From the Lake Superior *Miner*, of June 16th, we learn that work in the Ontonagon District proceeds thus: The National Mine Hoisting Engine No. 3 has now been running over two weeks, and the accumulated mineral on the ninth level has been chiefly removed. Work on the Conglomerate at this point has been very tedious, owing to the difficulty of breaking into the belt on and under the level. . . . . The Minnesota shows better on both the new and old veins. . . . . The Rockland has a large amount of good paying vein standing west of No. 1 shaft, chiefly over the seventh and eighth levels. In one of the stopes over the LXXX, they are uncovering a mass of very respetable dimensions. . . . . The superior exhibits no material change. Its monthly yield this year beats that of last year. . . . The Caledonia mass was still growing. . . . . Exploring on the Porcupine Mountain range has, thus far, been the most successful in results this season, not excepting the Vermillion Lake District. . . . . The Ontonagon Smeltery, which suspended work some three weeks since for lack of mineral, is again in blast. The following is a tabular statement of the mineral smelted at these works from the close of navigation, 1865, to the opening, 1866:

MINE.	MINERAL.	YIELD.	PER CENTAGE.
National	350,689	188,326 in Ingots. 62,690 in Cakes. 1,579 in Molds.	
		252,595	72 02-100
Ogima	36 213	22,647	62 51-100
Henwood	9,384	5,951	63 23-100
Aztec	29,858	22,627	75 78-100
Norwich	17,728	12,323	69 51-100
Hilton	13,359	9,504	71 13-100
Adventure	3,902	2,651	67 93-100
	461,133	328,281...Average	71 19-100

What has since been smelted from some of the above has yielded a higher per centage—Ogima over ten per cent. higher. . . . . From the Keweenaw District good accounts are heard. Of the Copper Falls mine it is stated that there is nothing unusual about the formation except the immense amount of copper in the vein. The gangue is very similar to other mass-bearing "fissures" of the district, and they have now a sufficient amount of ground open on it to yield several hundred tons of copper this season. They have on the three levels over nine hundred feet open and connected, on the vein extending south from the ashbed, on the sixty fms. level under the deep adit over three hundred and fifty feet. The backs over the twenty and forty fms. levels are very good and have yielded a large amount of mineral, but the stopes over them look poor compared with those over the sixth level. An excellent vein has been mined for over two hundred feet on the XX, and for a still longer stretch on the XL fms. level with heavier copper, the largest mass from the stopes ever weighing thirteen tons. Of the size of the main mass on the XL level no definite idea could be formed when we visited it in May, and we learn that it has steadily increased as the stopes and level have been extended south, and all efforts to move any portion of it were, at latest dates, utterly unavailing. Its extent is now known to be eighty feet along the level, and twenty feet above it at the north end. Of its thickness, except at the north end, nothing is yet known—if it is reasonably pure—say seventy-five per cent., and two feet thick on an average, it is probably the largest mas ever yet found. . . . . According to the United States census of 1860, the valuation of real and personal estate in the copper counties of Michigan was as follows, to wit:

Counties.	Real.	Personal.	Aggregate.
Houghton	$780,350	$506,950	$1,287 300
Ontonagon	475,400	355,405	820,895
Total	$1,255,760	$863,445	$2.118,195

Keweenaw county was erected out of part of Houghton county in 1861. Of the population of Houghton and Antonagon counties in 1860, the native and foreign born were in these proportions, to wit:

	Native born.	Foreign born.	Total.
Houghton	3,042	6,192	9,234
Ontonagon	1,512	3,056	4,568
Total	4,554	9,248	13,802

Native born thirty-three per cent., foreign born sixty-seven per cent., or more than two foreigners to one American. Popolution of the towns, etc., in Houghton county in 1860:

Copper Harbor	194	Hancock	1,618	L'Anse	582
Eagle Harbor	1,306	Houghton	2,146	Portage	1,714

Population of the towns, etc., in Ontonagon county in 1860:

Algonquin	77	Ontonagon	1,188	Rockdale	2,223
Greenland	336	Pewabic	109	Rosendale	595

Hancock and Copper Harbor, which by steamboat route are about eighty miles apart and by post road sixty miles apart, are at the opposite ends of Keweenaw Point, which Point contains the Quincy, Pewabic, Franklin, Cliff, Central and Copper Falls dividend-paying mines, and also the Albany and Boston, Calumet, Phœnix, Bay State, Delaware, Amygdaloid and other mines that ship copper and promise dividends.

The (Marquette) Lake Superior *Mining Journal*, of the 8th inst., says: The Jackson Iron Co. shipped 485 tons this week, making a total of 2,905 tons. The Cleveland Iron Mining Co. shipped 1,657 tons in the week ending May 26th, and 809 tons in the week ending June 2d, making a total of 2,870 to up to the last date. The Marquette Iron Co. shipped 661 tons in the week ending May 26th, and 375 tons in the week ending June 2d, making a total of 1,794 tons to the last date. The receipts over the Bay de Noquet Railroad for the week ending June 2d, were 6,576 tons ore and 1,379 tons pig, making 19,800 tons ore and 6,470 tons pig this season. . . . . We learn that quiet has been restored at the iron mines, and that a majority, if not all, of the strikers have resumed work. Several of the leaders were arrested during the week by Sheriff Barney, and lodged in jail. . . . . Alluding to Whelpley & Storer's desulphurizing process the *Journal* says: If such results can be practically reached it becomes highly probable that any vein yielding $15 of gold and upwards, per ton, and not costing over $5 per ton, to mine, can be worked at the profit of all the surplus above $15 per ton. It is well known that we have in this region numerous veins and ledges yielding by assay, $20 to $40 of gold, per ton, and the time may be close at hand when gold mining will be largely and profitably carried on among us. The gold of this section is found only in pyritous ores of a low valuation, and we shall never grow suddenly rich upon surface diggings and big nuggets. Patience, skill, and capital associated together will be requisite in gold mining here—under these conditions a moderate and uniform profit can certainly be realized, whenever under any process not more expensive than the one just described, all the gold which our ores contain can be saved. . . . . The Portage Lake *Mining Gazette* says, that the Pewabic Mining Company is about to build a short section of road upon the shore of the lake from their stamps to the smelting works.

Missouri.

From recent correspondence of the *Tribune* we condense the following: "In visiting the mineral regions of Missouri I came to Iron Mountain and Pilot Knob. . . . . The lead region is struck at Desota, forty-two miles from St. Louis; soon it become richer; it extends thirty miles south and the same east and west. Beyond this is iron—then lead again. In places there are copper and zinc. Eighty miles from St. Louis is Iron Mountain. It seems to be a conical hill, three hundred feet high, and, perhaps, it is two miles around the base. . . . . The original grant of Iron Mountain, of three miles square, was made by the Spanish Government to Pratt, Valle & Co., of St. Gennevieve, and afterward confirmed by Congress. In 1830 some ore was hauled fourteen miles to a furnace and smelted. In 1846, works were first established by Pratt, Zeigler, Valle & Co., who built one furnace, and after running it a short time sold out to the present owners, Chouteau, Harrison & Valle, called the American Iron Mountain Company. In 1848 the new company built two more furnaces and since then have been very successful. Before the railroad was completed, which was in 1858, the iron produced, was hauled to St. Genevieve, thirty-five miles, at the rate of eight tons a day. At present they are getting out an average of fifteen tons a day. The works runs the year round night and day, Sundays and all, without stopping, with the exception of interruptions when the hearths give out, which they do in from eight to sixteen months. There was no suspension during the war. The sides of the hill are covered with ore, which is in distinct pieces, from the size of a bullet up to large ones from one to two and even five to ten feet in diameter, and scattered like rocks. They have dug into the hill several hundred feet, and taken out the ore in large and small pieces, separated by red clay. Here it is called specular ore; that on the surface or near it, and in small pieces, is called gravel ore, and is valuable for making maleable iron. The heat of the sun and the action of the frost and rain have made it tougher. The average per cent. of the iron in the ore is, by the crucible, 97 per cent; in the furnace, 65 per cent. The whole number of laborers is three hundred. The village and the country adjoining being wholly owned by the company, they control everything. They allow no liquor to be sold, and trace much of their success to this. Furnacemen get $1 75 a day, and common laborers $1 50. Besike making iron, they cultivate six hundered acres of choice land, and carry on general farming; then they have shops of all kinds, and make their shovels, hoes and axes, and they make all their wagons, which are first-class. When I was there, they were making twenty-two tuns of pig iron every twenty-four hours with seventeen men. Regarding toughness they regard it superior to any other iron. Beside this, they send fifty tons of ore, half gravel, every day to St. Louis, and lay it on the river bank at $5 a ton; thence it is sent to furnaces on the Ohio river, in barges, and at less cost than ore can be raised near home. They put it on the cars for less than $1 a ton. If anybody can do well at the business they can. They make no complaints about tariffs, taxes or anything else. Half of the members of the company are for free trade, the other half opposed to it. Before the ore is carried to the crusher, it is roasted in huge piles of thousands of tons on layers of logs, mixed with charcoal dust. Charcoal costs 8½ cents a bushel; oak and hickory make the best, and one hundred and thirty bushels are required to make a ton of iron. They use no stone coal; if they had it they could get out much more iron in a day. I noticed that they bring the ore from Pilot Knob with theirs, which they get by exchange. The supply of ore at Iron Mountain seems likely to last several years. In boring a well to supply the furnace they went one hundred and eighty feet through ore, failed to get water, and stopped still in the ore. In the pleasant meadows of several hundred acres close by, ore is struck on going a few feet. Ore is in the gardens and fields. For quite a distance the railroad track is laid on solid iron ore. Yes, sir, they have sent to England for rails and laid them on ore known to be one hundred and eighty feet, perhaps it is one thousand feet thick, yielding sixty-five per cent of the best iron in the world. Perhaps we may learn better in 8,000 or 10,000 years. . . . . Pilot Knob is eighty-six and a half miles from St. Louis; it is forty-five to St. Genevieve, eighteen to Farmington twenty-two to Fredericktown, twenty-five to Mineral Point and Potosi, ninety-eight to Cape Girardeau and six to Iron Mountain. Pilot Knob covers an area of five hundred and sixty acres. It is five hundred feet high, and at present the ore is obtained from the side, four hundred feet from the bottom. The Knob itself is composed of steel-gray rocks, piled up like Cubas, or bricks on end, which from below look like summer

thunder clouds. They contain but a small per cent of iron. It is a magnificent sight. Two railroad tracks lead up to the ore, each 1,760 feet long. On each of these ways a loaded train brings up an empty train, connected by iron-wire rope. They run very fast. At the foot is the town of Pilot Knob. Opposite Pilot Knob is Shepherd Mountain, twice as large and seventy-nine feet higher. The ore is harder, and is good for steel. Some of it is magnetic, but at present no specimens of it can be had, because nothing is done there. Formerly much ore was taken out. The works are carried on by the Pilot Knob Iron Company. They have two stacks which make twenty-two tons hot-blast iron every twenty-four hours, and which requires one hundred and forty-five bushels of charcoal to the ton. They have had trouble with their hearths; fire-brick do not stand; the best material is sand rock. The widest part of the furnace is nine feet, and they are forty feet high. Of ore they ship eighteen tons a day, and lay it on the river bank at St. Louis at $5 a ton, and at a profit to the company of $2 a ton. The furnaces employ one hundred men: their average number of hands through the year is two hundred and fifty. Furnace hands get $1 75 to $2 a day; common laborers, $1 50, and houses and garden grounds. There are schools, and hands generally are wanted. I was told they had preaching in all these towns. I should not have known it unless they told me, although one day I went to meeting. Property is not dear: provisions are at St. Louis prices, and soon will be cheaper. The ore is roasted the same as at Iron Mountain, and they exchange for their own to mix, as it softens it. I was told that ex-Governor Morgan of New York is part owner of this property. Wood is getting scarce. The time is not distant when it will be exhausted. Then they must build a road to the Mississippi and get coal from the Illinois hills. They can get charcoal along the road. A cord of wood will yield forty bushels. The ore at Pilot Knob lies compact, with some mixture of clay and porphyre rock, and often is in veins several feet thick, and it is blasted from artificial lofty precipices, sometimes fifty t ons at once. It is put on board the cars at a cost of fifty cents a ton. There is quite a large quantity of ore here: also in Shcherd Mountain. These places have been mentioned as remarkable, and it has been estimated that they will supply the world with iron a million or two of years. All the country is hilly, and I was told of hills, a few miles south from Pilot Knob, which are equally rich. Last Fall, I was riding on horseback with Dr. Reed, some forty miles to the north-west, and we rode over a hill which was thickly covered with gravel ore. In short, iron seems to be as plentiful there as were silver and gold were in the days of solomon's temple. Why, then, should iron be brought from Wales to Missouri? I visited several lead mines. Many are peculiar. I shall not be prepared to speak of them without further investigation. My impression is that fortunes will be made for centuries to come in the Missouri lead mines. I have seen no part of Missouri which I like so well as the mineral region.

California.

Nevada.—The quartz mining interests of Grass Valley, says the *News Letter*, were never more promising than at this time. In addition to the twenty-two quartz mills now in operation in the vicinity of Grass Valley, not including the Empire Company's magnificent establishment just erected at a cost of $100,000; contracts have been let to construct a 16-stamp mill for the North Star Company; a 20-stamp mill for the Union Hill Company, a 10-stamp mill for the Cambridge, and a 5-stamp mill for the Pacific Ore and Reduction Works. The Kate Hayes mine was recently sold to W. H. V. Cronise and others, for some $50,000. Negotiations are said to be pending for the purchase of one of the most prominent mines of Grass Valley by certain capitalists of this city. . . . . The *Transcript* says: Mallory & Co. at You Bet, struck rich cement in their claims—richer than any yet found in the Blue Lead. It extends the entire length and depth of the lead as far as could be examined. Thousands of dollars of gold can be seen. . . . . The mills in Little York township are driving ahead night and day. The cement that is taken out is exceedingly rich. One of the companies cleaned up last week $6,380; another $2,000; another $2,300, and others less, with a glorious prospect ahead. . . . . A rich deposit of gold was struck on Saturday last in the Yellow Diamond ledge. This lead is located about three-quarters of a mile beyond Chapman's ranch, on Rock ravine, near Rush Creek. It was first located in 1858, and a pocket was found from which $6,000 was taken. A Nevadan invested some $500 in a load a few weeks ago, and paid as much more for assessments. On Saturday last he was offered the sum of $13,000 for his interest. He refused to sell, believing if he held on awhile he could get $20,000 or $30,000. The Eureka Company at Grass Valley, cleaned up 2,300 ounces of gold, worth about $36,800. This was after a run of two weeks. The mine was recently sold for $400,000. The mill will be stopped for a time for the introduction of new and improved machinery. . . . . The placer claims in Nevada county are not worked out yet. The Manzinitta Hill claim turned out $1,200 last week, and the Lost Hill claim yielded at the first clean up $7,000. Many claims at Gold Flat are paying rich. . . . . The Grass Valley *Union* says: It is rumored that the celebrated Star Spangled Banner mine, situated at Nevada, has been sold to San Francisco parties for $100,000. This mine is one of the recent discoveries and is among the most promising in the county. We yesterday saw some very fine looking rock taken from the Utah mine. It was brilliant with particles of fine gold and sulphurets. The ledge shows a thickness of between eight and twelve inches. It is one of the most promising mines in this section. . . . . The *Gazette* says: A crushing of ten tons of rock from the Mammoth ledge, situated a short distance above the Oriental mill, was cleaned up last Friday, and yielded within a fraction of ten dollars a ton. The free gold only was saved. The rock can be taken out, hauled and crushed in an ordinary mill, at an expense not exceeding five dollars a ton. . . . . Various papers concur in the statement that the mines of Excelsior district are extensive, stable and fabulously rich and that the rush of gold hunters thither, will be tremendous. The quartz mills were to start running about the first of June.

Placer.—A correspondent of the *Bulletin* writes from Forest Hill, May 18th, as follows: "Since my last communication, mining matters have been steadily progressing in this neighborhood, and prospects indicate increased activity. The existence of a very extensive channel of auriferous gravel or cement being an established fact, the actual extent of the same and the means of profitable working it are the two leading questions which at present engage the attention of the community. According to statistics collected in 1861, the whole number of tunnel run by various companies from Spring Garden to Bath was 39,209 feet, at an outlay of $1,701,750—being upwards of one-half of the whole nmaber of feet run and the aggregate cost therefor in all Placer county. Nearly all this outlay of cash was borne by, comparatively speaking, poor men, who had earned this money in placer diggings, capitalists having furnished but a small portion. Since 1861, a large additional number of feet have been run, but not in proportion to the five years' preceding that period, many tunnels having been left unprospected from the fact that the owners were drawn off to new excitements in other places, etc. . . . . The Dewey claim, which might be appropriately called the pioneer in the milling interest, continues on the even tenor of its noisy way, the company now having 20 stamps running. Mr. Breece, one of the former proprietors, who sold out early in the year, has again bought an interest (¼) for $12,000. Their tunnel is upwards of 2,000 feet, and their best prospects have been at the extremity. The Rough Gold Company have obtained renewed assurances of the wealth and extent of their ground. The Golden Gate Company are prospecting their ground previous to investing in machinery, and they have met with some very large prospects. Last week they washed seven ounces to a pan of dirt. Work has been recommenced in the Sebastapol and Volcano tunnels. The former of these is in very hard bed-rock, and has been laid over on account of the expense. It is situated higher up on the divide than the channel has yet been touched, and its success would prove a great impetus to mining in that vicinity. The Missouri tunnel, in Devil's Canon near Yankee Jim's, I believe I mentioned in my last was being prospected, previous to applying machinery. The company have since purchased a mill which will be erected at the claim without delay. This tunnel is in upwards of 2,000 feet. The Hope Company, after running their mill awhile shut down, and are at present engaged adding ten more stamps to their machinery. The Baltimore Company have completed their air shaft and have now very extensive prospects. I saw a piece of cement from this claim a few days since, which was about four inches square, and contained $4,75-100 of the precious metal after being reduced to hard mortar. The gold was of a coarse description. The Big Spring Company is not at work, but I am not informed of the reason. Some little attention is being paid to quartz mining, which has been hitherto a much neglected branch of industry in this locality.

Tulare.—The Visalia *Times* of the 18th ult., says: We receive from all parts of the neighborhing mining regions the most encouraging accounts. Nearly all the mills at Clear Creek are at work with profitable results, and the mines continue to improve as they are developed. Bigler & Co.'s mill is nearly completed. The Joe Walker lead is proving extremely rich. The shaft is down sixty-four feet, and the rock improves continually. The new district known as the Pinte is attracting much attention. A sale of one lead, unopened, is reported for $50,000. The old Mammoth lead, near Kernville, famous some years ago for its extent and richness, has been purchased by a San Francisco company, who are prosecuting the work with energy and system. Kelso Canon is beginning to attract capital and work. One mill is already up, and another under way, if not already laid down. The Long Tom is reported to exceed anything yet discovered, as to the size of the lead and the richness of the rock. The vein is six feet thick and permeated with free gold, plain to the naked eye, throughout.

Amador.—The *Dispatch* of the 19th ult., states that, on Friday evening last, Coney & Co. started their mill with sixteen stamps and four of Prater's concentrators. . . . From the *Ledger* we learn that the auriferous tale mines of Amador are likely to prove a valuable investment. The north extensions of the original locations, the Mount Echo and Mohawk, have been sunk to a depth of twenty-two feet and show a lode of pay rock of an average width of ten feet. The last six or eight feet showed a decided improvement in the quality of the ore, and much free gold is visible—not unfrequently being found in pieces of from one to several dollars in value. . . . The Oak Hill copper mining company—first south extension of the Newton—have resumed work with good prospects. . . . The rock taken from the Kennedy lode, near town, is now being crushed at the Coney mill, and pays handsomely.

Calaveras.—The Copperoppolis *Courier* of the 12th inst., says: The quartz mill of Mr. McGlynn, near San Andreas, is completed, and is now engaged on cement ground and tailings, which pay about ten dollars to the ton. William Irvine is about to erect a mill on his claim at El Dorado. The Kentuck company have resumed operations in their new shaft, with excellent prospects. At a depth of only twenty feet the lead is three feet wide and appears to be rapidly consolidating.

Sierra.—A correspondent of the *Union*, writing from Downieville, May 13th, says: Numerous gold bearing ledges have been taken up and recorded, and some prospected proved good. A New York capitalist has invested in one on Mount Pindus. . . . A ledge of supposed vast richness, containing gold, silver and copper, has been located on the line half way between here and Meadow Lake. It assays, in gold and silver, $48 to the ton of 2,000 pounds, and the copper is a big item. The gold is contained in a yellow sulphuret of copper.

Monterey.—We are informed by the *Gazette* that cinnabar from a new mine recently discovered in the San Bonito mining district, on what is called the Clear Creek ledge, located about sixty-five miles from San Juan, is as rich as any that was ever excavated at the New Almaden mines in Santa Clara county. The ledge is about eight feet wide. Operations will be immediately put on foot for the erection of suitable smelting works.

Lake.—It is stated that the company owning the borax mines in Lake county, have made extensive preparations for taking out large quantities of borax this season. This mineral is dug in crystalized masses from the bottom of Clear Lake, where it is deposited by springs. A large movable coffer dam is sunk in certain parts of the lake, which, on being pumped dry, allows the workmen to search the muddy bottom for borax crystals.

Tuolumne.—The *Courier's* Uniontown correspondent says that Comstock's mill will commence work again in a day or two. The Waterhouse placer claim cleaned up twenty-nine ounces last week. The Excelsior commenced work yesterday; they are down 380 feet, and will go 200 deeper. The last clean-up of the Mount Vernon showed an average of over $200 to the ton. The shaft is 200 feet deep. Thirty men are at work. . . . . The town of Sonora is "looking up."

Butte.—It is said that a San Francisco company is negotiating with parties owning extensive claims on the Smartsville road, nearly opposite the Empire Ranche. To obtain a fall they propose to construct a tunnel seventeen hundred feet in length, at an estimated cost of one hundred thousand dollars; and before the claim can be properly opened, an expenditure of at least $700,000 will be necessary. The parties now owning ask $550,000.

Sacramento.—The *Union* has seen some find specimens of ore from the Jersey gold mine at White Rock. A shaft has been put into the mine to the depth of two hundred feet, and the ore taken from it has averaged $50 to the ton. It is the intention of the owners to erect a mill at once.

Santa Clara.—There are now about thirteen hundred men engaged in mining, reducing ore, sorting, and other work at the New Almaden quicksilver mines. The company have recently erected new and very extensive reduction works on an approved plan.

Fresno.—A discovery of a very rich quartz vein was lately made on the head of Coarse Gold gulch, about six miles southeast of McKeamer's store, in Fresno county, by Colonel John Moss and William Sherer, of San Francisco. Machinery is to be put up at once.

Coluse.—The *Sun* says: Mr. Hardenburg sent out this week a steam engine to be used in boring for oil on his claim on Bear Creek. He has been boring for several months by hand and the indications are considered most flattering.

Alpine.—The Monitor *Gazette* of the 19th ult., informs us that the Active Silver Mining and Tunnel Co. will soon commence operations. The Morning Star Company are drifting on their ledge, intending to open another chimney about two hundred and fifty feet from the one first struck. They have less than one hundred feet to make now to reach that chimney, and are finding good ore all the way. Work on the American is prosecuted night and day. The big cave in the casing of the Winchester ledge has been cleared out. The Mullan Gold and Silver Mining Company broke ground on Thursday for a shaft to be sunk to a depth of one hundred feet below the level of the tunnel at the point where the ledge was cut. At this point, only thirty feet below the surface, ore is found of good quality. . . The Silver Mountain *Bulletin* of the 12th says: Work is progressing rapidly in the tunnel of the California and Illinois Company, in Raymond district. Ventilating pipes have been introduced. . . . Dr. Pilkington, as agent for an Eastern company, is about commencing a double track tunnel, for the purpose of cutting the Desperado and Atlantic ledges. . . . The ledge in the Pennsylvania Company's claim is now ten feet in thickness, and has a splendid gouge—indicating a perfect ledge. . . . One thousand feet in the Honest John lode, situated in Scandinavian Canon, Silver Mountain District, was sold a few days ago to a company of New York capitalists. The claim is named the Atlantic.

Nevada.

The Comstock.—From the *News Letter*, May 26th, we learn that during the week just ended, Ophir had been largely dealt in, fluctuating from $350 to $385. We have news that on the west drift, where they have expected ore, they have run against the west wall of the vein. This is the news at the office. From a gentleman who arrived on Friday morning, he gives it as his opinion that it is only a clay seam, and ore will be found to the west. Drifting south, the ore continues good in quality and quantity. . . . . Arrangements had been made to start work on this mine, and, in connection with the Ophir, it will be commenced immediately, which will, when completed, furnish air to both mines, and will prove the extent of the developments made in going south on the Ophir. . . . . As to Gould and Curry there was nothing new in any of the drifts. . . . . The drifts in the Savage indicated no change or give any fears that the south level will not turn out what was expected. . . . . The yield of Hale and Norcross was undiminished. . . . . From Chollar we hear very favorable accounts of its future prospect—and those intimately connected with it have been large buyers. On Monday and Tuesday it partook of the panic, and declined under three hundred, but rallied, and on Friday was firm at three hundred and fifteen. A few weeks more will prove the extent of the favorable developments in this mine. . . . . Nothing new from the Bullion. . . . . The drift in the Imperial was suspended enable them to repair one of their boilers, when work will be resumed. Mr. Buckminster, does not look for ore until he has drifted seventy-five feet further east,

which will take him at least thirty days. This stock partook of the effect of the panic, and sold as low as $115, but rallied and went to $130, declining to $125. . . . . Yellow Jacket is doing well. It's future is very promising. . . . . The new reels of the Crown Point have been put in and the shaft repaired, and they are again at work. In working down they have laid open some very rich ore, and the Central Mill has been employed; the ore assays over $400 per ton. This mine is good and well managed. . . . From Belcher great developments are expected.

Lander.—Mr. Williams writes to his brother from Austin, May 27th, as follows: "The Nevada mines continue to improve. Some very rich developments have been made in the last two weeks at different depths, varying from one hundred and fifty to two hundred and fifty feet perpendicular, the ore paying by mill process from five hundred to one thousand dollars per ton. The rich strikes are in the following mines: Yankee Blade, Old Colony, Great Eastern, and Providential; the Yankee has the richest chimney in the world. What will you say when I tell you a level has been run fifty feet into the chimney showing a ledge of solid ruby ore twenty inches in width. How deep it continues cannot at the present time be determined. The ore will pay one thousand dollars per ton; selected closely, two to three. I visited the mine yesterday in company with two New York gentlemen, Messrs. Clark and Field, they expressed themselves as perfectly satisfied with the future of this country, the only question is money and time; when a system of deep mining has been adopted and carried out, then these mines will pay better than any mines in the world. The Old Colony have a two foot lode, one foot of which will pay five hundred dollars per ton; they are down two hundred and seventy feet on incline lode pitches, nearly sixty-five on the average. Great Eastern has a two foot lode of three or four hundred ore, they are down with shaft one hundred and fifty feet. Manhattan Co., owning North Star and Oregon lodes, have shaft down nearly two hundred feet, they have three hundred tons of ore out that will pay over two hundred dollars to the ton, so you see in every case where depth has been attained rich ore has been struck; if companies East continue to develope their claims, in one year from now all the mills here will have enough to keep them busy. The Providential mine has passed through the base metal and now have a vein five feet in width, three feet of which will pay from one hundred and fifty to two hundred dollars to the ton. The Comargo Co. have a lode two feet wide of ruby ore equally as rich as the Witlach Union. I could name many more but could not give you depth of incline or width of lode; will speak of others in my next. I have more faith in our mines now than ever, but it will cost considerable to open them, but when that is done there are no mines in the world that can excel them. One year from now you will see a wonderful difference in the appearance of our mines. All that we require is time and money to open them to make them paying institutions. Mr. Cranley called on me with some assays from the Old Dominion, the average assay of ten feet of the lode was something over fifty dollars, which I consider remarkably good for so large a lode; some of the quartz would assay into the hundreds, but I prefer to have the average, then I know what to calculate upon. Fifty dollar rock will pay handsomely provided a company have their own mill and have plenty of ore out and in sight before they start their mill. I consider the Old Dominion one of the best mines in the country, and one that will make handsome returns on the amount of money invested; if you sell this mine be sure and retain some of the stock unassessable, as I am confident that even a small interest will in a year or two be worth a small fortune, so look out and secure some of the stock, and if you don't want it I will buy it from you. The 'Pony' remains *in statu quo*. If that lode could be worked from the tunnel I am satisfied rich ore would be struck whenever the tunnel cuts the lode, and I trust it may be soon, as I would like to see that hill developed, as the surface ore gives every indication of a rich deposit below."

Silver Bend.—The *Reveille* says: Scarcely a day passes during which we are not called on to note the discovery of some new deposit of silver. The latest and most important discovery seems to be Silver Bend, lying from ninety to one hundred miles south-east of Austin, and in the second range of hills east of Smoky Valley, from which handsome ore has been brought in, the assays of which yield largely of silver. Thus far, we learn, the locations have been confined to one hill, where the veins, of good size, lie as thickly as upon Lander Hill. A party will leave town to-morrow to examine the district, and if it proves as valuable as represented, they are prepared to erect a mill there immediately.

St. Mary's.—The Virginia city *Enterprise* says: A piece of ore from the croppings of a ledge in St. Mary's District was recently assayed in this city, yielding at the rate of $28 29 to the ton. This will do pretty well for St. Mary's, and if the boys out there have got plenty more of that sort of rock, they have as good as they want.

Blind Springs.—A Mr. Pierce has shown the *Enterprise* some rock from the well known Blind Springs District, about 150 miles south of Virginia City, on the road to Kearsarge. The first shown was from the Carrick, a ledge about two feet in width, one foot of which is the pay streak from which this ore was taken and which will probably yield $600 to the ton. The ore contains, besides silver, some gold, with copper and antimony. The claim is owned by Carrick and DeKay, who have sunk a shaft on it fifty feet deep during the three months they have worked it. It is a very promising claim, and highly esteemed by its proprietors. Some fine specimens from the Piute, showing cloride and sulphurets of silver, copper, iron, a little galena, etc., were next shown us. This ledge is some twenty inches wide, all ore, which will yield about $100 per ton. A shaft ten feet in depth has been sunk on the ledge, which is found to increase in width as the shaft increases in depth. The claim is owned by Messrs. J. W. Carrick and J. Low, of Gold Hill, and D. P. Pierce, and was located about six months ago. Some ore from the Columbia showed considerable quantities of galena, together with silver, gold, copper and antimony. He also had a number of specimens from the Savage, a fine large ledge, showing silver, copper and antimony, similar to the Carrick ore. All this rock was from the croppings of each ledge, and thought to be a fair average of the top rock of those ledges. The average width of the famous Diana ledge is four feet, and the ore which is being constantly worked in the mill at that point pays an average of $200 per ton. The district is well wooded and watered, and the ledges being generally rich, a large and flourishing town will at no distant day grow up from the small one there at present.

Colorado.

The Black Hawk *Journal* of the 12th inst., says: Is it analysis or assay that is wanting for the ores of Colorado? It strikes us that there has been enough of the former and so little of the latter that the component parts of the ores of our best lodes are scarcely known. The ores are refractory; what makes them so? One says lead, another sulphur, another zinc, another copper, etc., whilst no one pretends to tell the component parts of even our principal lodes. Would it not be better to analyze our ores in order to know what metals they want to destroy, to neutralize, or to flux or pass off. There is no doubt that many of the processes now spoken of would successfully work many of our ores, if people only knew which to use, and this can only be known by analysis; then the processes that are so successful in Eastern cities would be even so here if ores of the same component parts were worked upon in like manner. . . . Coming over through Clear Creek county yesterday we noticed that Mr. Sabin had started the Bullion Company's mill. Also that Mr. McIntyre had commenced trying his superheated steam experiment or enterprise. The Downieville mill is running, and good results are anticipated from it. A new mill is building just below Mill City. The Bertola men are hoping much just now from the sodium-amalgam process. At Empire, Mr. Peck started mining last week, running 180 feet of water from his shaft in three or four days. At Argentine, mining has begun, notwithstanding the rough weather, on the very crest of the ridge. At Georgetown, too, several parties are commencing and prosecuting mining enterprise. Sisty has his springs at Idaho at last ready for use. Altogether the prospects of the county are considered by old residents brighter than ever. . . . The Bear River prospectors have shoveled and broken a trail across the Berthond Pass and are pouring over the range in a steady stream. It was thought animals could be got over yesterday. We met Dr. Wharton of the *News* following a mule, going for an "out," we suppose. So far as we could learn there are but very few persons who know anything of the destination of this stampede, even in a general sense. For two summers, two or three men have mined in a gulch somewhere on Bear or White River, wintering at Fort Bridger. One or two men, living in Empire, claim to know where it is. That is all. Our friend Cox thinks they met three hundred men going over, as they came out of the Park. Probably one hundred would more than count them. It is the old, old story. . . . From the *Register* we learn that: The coaches nightly land new faces at the several hotels, and some old familiar ones, also. The prospects are, that mining will be lively this season. . . . . Surface water is troubling the miners quite seriously in Russell Gulch. Work in the principal mines in that vicinity is suspended in consequence. . . . The Kip & Buell mill was to have been started up yesterday. . . . The Narragansett Company have reduced the pay of their laborers in the mines to $4 per day. Other companies follow suit. . . . The Denver *News* of the 13th inst., says: The assays from nine different lodes in Red Mountain, belonging to the Union Company, yielded an average of one hundred and twenty-five dollars per ton, the lowest assay being one dollar and twelve cents per ton. We are also creditably informed that a lode near the Twin Lakes, the location of which can be seen on the photographs of Twin Lakes, yields nearly $1,000 per ton, about half silver. Assays from twenty Red Mountain lodes, made last fall by Behr & Keith, of Central City, yielded an average of over $100 per ton. . . . The mining season is opening with more promise in Colorado than for at least three years past. Particularly is this the case in the gulch, bar and placer diggings. More gold will be taken from the washings in Park, Summit and Lake counties during 1866 than in any preceding year. Lead mining will also be pushed more actively than for years past. The mania for bonding and selling has past away. There are too many rich mines in Colorado to justify the payment of one, two or three thousand dollars per foot for any of them. . . . . Editorial correspondence of the same paper says: We passed by the famous Argentine lode in Bergan District to-day; much prospecting has been done in this vicinity, the hills being spotted with piles of dirt thrown from scores of prospect lodes. Nothing very valuable in the way of precious metals has been discovered. Copper, however, seems to abound in what will prove to be paying quantities, as soon as freights and labor will justify. Not much work is now being done in this district, the prospectors having run out of grub, being compelled to pursue other avocations to make a raise. It is in contemplation to create a new mining district here, giving it the name of Bear Creek.

Montana.

In recent correspondence from this Territory to the *Tribune* we are told: "To plant 40 acres in potatoes, turnips, cabbages, onions, barley, oats, etc., one must expend at least $500 for seed. Half a pound of onion seed has been sold here this spring for $64! An offset to this was a sale last fall of an acre of onions in the ground for $1,500 in gold dust. A plow is worth $100. The expenses of mining are greatly increased by such prices for the necessary supplies. Almost everything purchased costs at least three times its price in the States; if the supply is short, it may be ten or twenty times. Nothing has a regularly established value. The whole stock of certain goods in the country is often monopolized by a few persons, and held at any figures they choose. Matches, which every one uses, have sold all the winter for 50 cents to 75 cents a box; newspapers at the same prices each one. Axe-helves of poor quality, that snap like pipe-stems in cold weather, have not been less than $2 50 a-piece, and have sold as high as $5. The great increase of business, however, is checking this, and home production will soon put an end to it in some articles of prime necessity." The balance of the long letter is an attack upon the mining laws of the Territory. Says the writer: "The excellent code of mining laws of the Spaniards, which some profess the Territorial laws are based upon, contain the wholesome stipulation that mines appropriated by individuals should be regularly and systematically worked, and inspectors are appointed to see that this is done. Failure to work them involves reversion to the Government, when they are again open for *denouncement* or recording by those who will work them. The French and British Colonial Mining Laws contain similar provisions. No code, probably, but that of Montana was ever devised to give away the mines of a country to individuals to sell out at their own prices, or to keep them shut up at their pleasure. The mining laws of the several territories were originally framed with reference to placer mines, and not to quartz lodes. When applied to the latter, with the slight modification they have received, they are so ill adapted to the purpose that no property is so fruitful of litigation as quartz mines. Few among them of any value but are already subjects of lawsuits; and law in this region is a frequent necessity that involves the most serious expenses." . . . The Helena *Radiator* of May 25th says: A gentleman from Indian Creek states that a nugget was picked up in the upper end of that gulch during the week, which weighed $87, and that, as the gulch continues to be developed, the prospects are such as to indicate great wealth and prosperity for the coming season.

Minnesota.

The Superior *Gazette* states that a Mr. Anderson, who in company with one or two others arrived at Vermillion some time in the month of March, having become discouraged, sold out his interest to his partners and was about to start for home; at this juncture, he received employment in sinking a well, and while at this work made the discovery of a rich deposit. On getting down to the bed rock, they encountered a crevice, evidently a subterranean water passage, in which he accumulated a quantity of sand and other debris, which on examination—he being an experienced gold hunter—he concluded might contain gold; taking some of this up and washing it out, he became convinced that he, just on the eve of quitting the country, had found what so many were in search of—stream gold. The washing out of several pans more of the sediment produced the same result, and it was not long before a majority of the holders of quartz veins were off exploring the beds of the various creeks and streams, and hunting up washings. This unexpected discovery, taken in connection with the yield from the assays lately made in Saint Paul, cannot fail to attract the attention of capitalists and miners to the district. Gulch diggings and quartz mining are two separate and distinct branches of gold mining; the first can be embarked in by any and every one, without any very large outlay of capital, the tools required being only a shovel and pan. To engage in the latter operation companies must be formed, machinery purchased, roads made and money expended in large sums before any return comes. After giving six assays made from the Minnesota Gold Mining Company's quartz—ranging from $2 80 in gold and $3 75 in silver up to $1 82 in gold and $9 in silver—the *Gazette* proceeds to say that they were made from quartz taken from Minnesota Point, extending into the southwestern side of Vermillion Lake. On this point the veins of gold-bearing quartz are very wide, some of them ten feet and of the ∧ form —widening as they descend. These veins extend throughout the whole length of the point, and are taken up by the Minnesota Gold Mining Company, Vermillion Falls Company, and the Mutual Protection Company, the latter of which hold six claims on it. . . . A letter from Superior City, dated the 14th, says that very rich gulch diggings have been discovered on White Face river, in the Vermillion gold country, and hundreds of people are rushing there. People here don't take much stock in it, however.

Idaho.

From the *Statesman* of May 15th we learn that mining operations are being resumed with much vigor. The Idaho Company and the Waddingham mills will be running in a few days—the former on Idaho ore, and the latter on Confederate Star ore; a large quantity of the latter is on hand, and gold is visible through it with the naked eye. The Oro Fino mine is working 60 men. The Silver Legion has been working all winter, and doing well. The Alison mine is being worked with a large force. The Havermic Company struck their ledge 250 feet beneath the surface, by a 300 feet tunnel, which has cost nearly $5,500. . . . The Salt Lake *Telegraph* of May 13th says: From Mr. Gerrish, who left there but a few days since, we learn that the depopulation of Idaho is being rapidly accomplished—the mass going the way of all miners—to Montana. California would also contribute largely of her strength, the present season, towards filling the gulches and crevices of the new land of gold with "honest miners." A very apparent reason exists for the stampede from the Idaho basin, besides the glowing accounts from Montana, in the fact that no frontier community, under the circumstances, could stand, financially, unscathed, such a fire and its results—upwards of $2,000,000 being the estimated losses and amount expended in re-building. The losses were considerably increased by the failure of parties to cancel their accounts after the books were burned. Mercantile houses in Idaho City,

formerly renting for $100 and $150 per month, are now unoccupied—three or four principal houses doing all the business. This dolorous account seems to us (JOURNAL OF MINING) to be overdrawn.

Oregon.

A coal bank is being opened by Wand & Moore, about two miles south of Eugene City, Oregon. The coal crops out, and is somewhat mixed with slate, but burns well. The slope has been run sixty feet, and there the coal is found to be of a much better quality.

The *Herald* says: King & Myrick turned out yesterday thirteen silver bricks, valued at $16,000, from the silver mines of Owyhee. They were melted by Mr. Miller, and assayed by Mr. Hayberg, of the house of King & Myrick. This is the second assay of silver bullion that has been had in Portland, and from the appearance of the bricks, we feel satisfied that it is useless for parties to take their metal to San Francisco for reduction and assay. It can be done in Portland equally as cheap, or cheaper, and with as little loss as in San Francisco. . . . We understand, says the Vancouver *Register*, that coal has been lately discovered on the farm of Mr. William H. Martin, in the lower end of the county. The ground has not yet been prospected to any extent, but the surface appearances are such as to warrant the belief that coal will be found in great abundance. The bank is within a few rods of the river and convenient to a good landing. That coal will yet be found in various parts of the country we have little doubt. . . . Coal discoveries have been made on Capt. Nagle's property at Sooke.

Iowa.

It is said that Prof. White, Geologist for the State of Iowa, has been examining the rough cliffs along the headwaters of the Iowa river in Hardin county, and expresses his surprise at finding such out-croppings of coal on the margin of the carboniferous system of the State. No other deposits of coal can be found between Elchora and Dubuque, and this article is quite as scare between that place and Homer, in Webster county. Mr. White says that the Florida and Steamboat Rock coal mines positively extend over a region of two square miles, and probably over three times that extent; that within this radi, coal can be found anywhere and everywhere by a vigorous application of pick and shovel. Here is a source of undeveloped wealth that, in twenty years from now, will endow foundries, factories, furnaces and rolling mills without number. A local paper, in speaking of the importance of this discovery, says the Eldorado Railroad and Coal Company have now within their control one mile of the most valuable land west of the Mississippi. Visitors are constantly coming to see these possessions for themselves, and in every instance they go away satisfied after endeavoring to purchase. If this new coal company will perform its part, there is no reason why the farmers residing on prairies miles and miles distant should not get their fuel here for ten and fifteen cents per bushel.

Utah.

Mr. Aaron Doane and son have left Reese River for the Rush Valley mines, where they purpose erecting some heavy reducing machinery, recently brought across the plains by them from Philadelphia to Great Salt Lake City. The *Reveille*, alluding to the matter, says: The great expense of hauling machinery across the continent was enough to discourage any company, but still greater disappointment was felt when it was ascertained that the style of mill—a Gardiner's crusher—was unfit for the purpose. Mr. Doane's bad fortune did not consist alone in bringing from Philadelphia, at an immense expense, poor machinery, but he was also deceived in the mines he came to work, and in others he had purchased. . . . . Fort Bridger correspondence, dated May 2d, of the *Vedette* states that in the sand hills bordering Wind River valley are found good indications of stone coal and iron, also many quarries of limestone suitable for building purposes. The foothills and valley are covered, winter and summer, with a luxuriant growth of nutritious grass, which makes it one of the finest grazing regions west of the Missouri river. The mountains that surround the valley bear good outside indications of containing rich deposits of gold and silver-bearing quartz.

Indiana.

Spencer county, Indiana, is enjoying an excitement about coal. Back of Grand View the hills are reported full of coal, superior in quality to any west of Pittsburg. The Lafayette *Journal* says a company has been formed in Cincinnati which proposes to develop these mines to the furthest extent as soon as machinery can be purchased and put in operation. The vein of coal the company proposes working is about fifty feet thick, and the coal of an excellent quality. The company also contemplates the immediate construction of a railroad from Grand View to the mines, for the purpose of delivering coal, in any quantity that may be desired, on the river bank.

Washington.

The Vancouver *Register* of May 12th says: From S. D. Maxon we learn that another ledge of gold and silver quartz has been struck a mile or more northeast of Vancouver ledge, very much resembling the others, but giving probably a more favorable prospect. From gentlemen who have prospected in other places, and somewhat further into the mountains, we learn that the same indications are found in several other places, giving good evidence that summer will develop a large and rich district for mining. The confidence of holders increases, and they feel satisfied of a permanently rich thing.

Pennsylvania.

The Pottsville *Mining Journal* says: Anthracite coal of impure quality, has been discovered in Warwick township, Bucks county. Three thousand dollars have been subscribed by those interested, for the purpose of making an investigation as to the character and quality of the coal. The folks there seem to think there is something in it, for they have formed an association and named it the "Dark Hollow Coal and Mining Company."

Nova Scotia.

The Halifax *Citizen* says: There are 500 men at present employed at the Renfrew gold diggings, with others constantly arriving. All the leads on which mining is being carried on are turning out well. Three new crushing mills will soon be started. . . . . A Liverpool paper speaks of the recent exhibition in that city of some fine specimens of auriferous quartz, from the Rockland Gold Mining Company, near Waverley, Nova Scotia. The mines are only ten miles distant from Halifax, and the gold is obtained at a depth of 90 feet. The specimens of quartz exhibited at the establishment of Messrs. Jones' are very fine, and show the gold spread throughout each piece of stone, which is as white as snow. The specimens indicate that Nova Scotia is very rich in the precious metal. With the quartz specimens is a fine ingot of gold weighing 175 ounces, and as a proof of its superior quality, we may state that while the standard price of gold is £3 17s 9d, the ingot is worth £4 0s 6d per ounce. This company have now two crushing mills at work night and day, employing about 100 men, and the quantity of quartz crushed each week is 200 tons. We understand that the yield of gold varies according to the depth of the shaft, and appears to increase in richness upon a descending scale. It varies—from 15 dwts. to 2½ ounces per ton of quartz has been obtained. A post road runs through Waverley, and a railway passes within one mile. Nova Scotia, therefore, presents a fine field for the emigrant, for, in addition to her agricultural riches, nature has endowed her in an extraordinary degree with mineral wealth in mines of gold, coal, and iron ore. The gold occurs in quartz veins imbedded in the slate, or in small particles in the sands, which have been accumulated from the wearing of the rocks by the action of the sea. The discoverer of any new mine is entitled to a lease of twenty-one years of an area of 250 by 150 feet, free from advance payment or royalty, provided the place of discovery is three miles distant from any mine on a known lode, or of one mile at right angles from the course of the lode, in alluvial workings, at least two miles distant from any previously discovered mine. Copper has also been found in various parts—the deposits rich and valuable, but limited. Iron mining has made but slow progress, notwithstanding that the ore is abundant and of good quality. There cannot be a much better test of the profitable or unprofitable character of auriferous quartz mining, especially in Nova Scotia, than an exhibition of the average yield of gold which it affords to every man engaged in and about mining. While in 1862 the Nova Scotia gold mines show a return of only 66c. per man per day, in 1863, this amount rises to 95c. per man. In 1864 there is a further average increase to 1 dollar 39c.; while for the fiscal year ending Sept. 30, 1865, this amount has still further increased to 2 dollars 13c. per man per day. The gold region comprises a band of from ten to forty miles in width, extending along the whole Atlantic coast of the mainland of the provinces, a distance of 300 miles in length. In February last the Emigration Commissioner reported:—"From the coal mines I had generally full and satisfactory replies to my first circular; and the amount is that nearly six hundred coal-cutters, or colliers, are at present wanted, besides what may be required in the summer for mines now opening. Some say, indirectly, that they will have plenty of employment for all classes of workmen. The wages paid to colliers or coal-cutters are $2 per day of eight hours; but good workmen, who work by the piece or quantity they turn out, earn from $2 50 to $4 per day. Carpenters and blacksmiths are paid at the rate of $1 50, laborers from $1 to $1 20, and boys from 40 to 70 cents per day. Masons and bricklayers, too, would be sure to get employment at wages equal to, or exceeding those of carpenters and blacksmiths. All the mining companies are prepared to furnish houses for the families of every man they employ, at nominal rents, and several have many houses already built, but not yet occupied; these are reported to be comfortable and commodious. Board and lodgings for single men can be had at from $2 to $2 50 (8s. to 10s. per week)." On the 24th of April last he writes: "We can do with any number of agricultural or railway laborers; and masons, carpenters, and blacksmiths are much wanted." In other gold mining countries the cost of living is greatly enhanced; but in Nova Scotia a man can live very comfortably for 8s. per week, so extremely cheap are all the necessaries of life.

Mexico.

A correspondent writing from Hermo Sillo, Sonora, April 6th, says: "Though the State of Sonora is famous for its gold and silver mine, which are still worked to a certain extent, I have devoted myself more to other branches of business, and among these I must name, in the first instance, coal, of which a valuable deposit has been discovered near San Marcial, about twenty-six and a half leagues from Guaymas, where it can be laid down at ten dollars per ton, and for less, if the explorers should do their own hauling, send their wagons with salt to the San Marcial mines, and bring the coal back. The coal is anthracite, and has been carefully analyzed by Professor Fisher, who found it to contain of water and volatile matters, expelled at dull red heat, 11.6 per cent.; combustible matter, 74.6 per cent.; ash left after perfect combustion, 13.8 per cent. The engineer of the Rhin, and Captain Wakeman, who have both used a small quantity of this coal, have pronounced it of first-rate quality; and the officers of the Saranac are going to pay a visit to the mine. Another article of importance to San Francisco manufacturers would be fire clay, which has been tried in numerous foundries, and pronounced equal to the best quality imported from England. It can be laid down at Guaymas at seventeen dollars per ton, and fire bricks in proportion. I also saw an excellent porcelain clay, and a kind of soapstone, which is in common use for washing soap, being rather an expensive article."

New Zealand.

Recent correspondence from New Zealand states that the Northern Island is well timbered with magnificent pine trees, admirably adapted for masts, spars, ship building and building purposes. The Kauri pine, a smaller species, when worked, carries a high natural polish, and answers well for furniture and ornamental work. The middle Island is comparatively free from timber. The whole country is full of minerals; the richest gold fields are found on the middle island, the diggings so far about Auckland and other parts of the northern island not being of much account. Gold is found in nearly every part of the middle island; the last rush has been to the Gray river, to the Hoki-ti-ki diggings (better known as Hokey-pokey). These and the Okirita are undoubtedly very rich. The mines, however, suffer from too much water. The rainfall on this side of the island is very great; indeed it rains, on an average, 350 days in the year, the creeks and rivers coming down so rapidly from the hills, wash everything away before them, causing great destruction of flumes, dams and mining works generally. There is, notwithstanding these drawbacks, a large amount of gold taken out, and many rich strikes have been made. The gold is very fine and pure. So far the diggings are all alluvial, but rich quartz leads are about to be worked. On the other side of the Island they have to complain of drought, nearly all the rain appearing to fall on the east side. In addition to gold, there is a black sand found in great quantities on the coast near Taranaki, which can be converted into the very finest steel known. Some of it was sent to England and worked up there into razors, surgical instruments, etc., of very superior quality. For fine Damascus swords and such like it is the best known. This will become very valuable in time.

Ecuador.

According to the Quito papers, immigrants from California were settling down in the rich province of Esmeraldas, where large gold mines have been discovered. It was expected that this immigration would develop soon the considerable resources of the most unknown of the Ecuadorian provinces, and that to this favorable result would contribute the fact that Mr. Wilson, the former agent for the Ecuador Land Company, had resigned his appointment of Engineer to the Ecuadorian Government, to be enabled to work the mine of Playa de Oro, or Golden Shore, belonging to General Flores' family, which mine is one of the best of Esmeraldas, and very near the assignment made to the British bondholders, whose land warrants will rise very soon.

Switzerland.

A correspondent of the New York *Commercial Advertiser*, writing from Geneva, Switzerland, makes the following statement: "At Sohænis I saw the coal mine of Switzerland. It is a vein of about a foot in thickness on an average, and has to be worked beneath the rock surface. It is a species of cannel coal, said to contain about two and a half millions of bushels, and was purchased for 450,000 francs. It embraces two hundred acres of land; and when I told them that in America they could buy five thousand acres, with veins of coal nine feet thick, for the same money, they looked at me as if they had caught me in regular Yankee bragging. They intend to use the coal for making coal oil and paraffine candles, and they expect to get large profits."

Abyssinia.

The *Colliery Guardian* (Eng.) says: "The discovery of coal in Abyssinia has caused a considerable movement along the coast of the Red Sea. A few weeks ago a party of Frenchmen left Massowah for the purpose of visiting a coal-field situate somewhere between Massowah and Hanfilah, which is said to have been discovered several years ago by Mr. Barroni, formerly British consular agent at the former place, and of which they are reported to have made a conditional sale to a French commercial house at Alexandria for five millions of francs." There appears to be a doubt with respect to ownership and sovereignty of the territory in which the mineral is situated.

Australia.

It is stated that, notwithstanding an extraordinary drought, and consequent scarcity of water for mining purposes, the productiveness of the Australian gold fields does not appear to be checked. The reports from many of the companies show but little falling off. The custom-house returns of the export of gold since the beginning of this year give 1,648,693 ounces. The quantity exported last year was 1,725,000 ounces.

Dates to March 2nd from Sydney state that a payable and extensive gold field has been discovered about fifty miles west of Cleveland Bay, Queensland.

New Mexico.

It is stated that an expedition to the gold, silver, and copper mines of Arizona, on the Gila River, is rapidly forming at St. Louis, to take up its march across the plains. A preparatory camp is being established at Topeka, Kansas, whither tents and supplies are being shipped. It is said that the company contracts to take persons through at very cheap rates. We shall probably have more to say about this expedition hereafter.

Oil Summary.

Pensylvania.

From the T. Holmden, Morey, McKinney, Hiner, Holmstead and Rooker Farms, at Pithole, we have good accounts. So, also, from the J. C. Siggins, Hickory, Day, White and Fleming Farms, on West Hickory. Dennis Run is creating quite a reputation. The Tidioute

Chronicle says, with reference to this district: The oil excitement in this section is on the increase. Leases are sought for in choice localities—the nearer Dennis Run the better. Several more leases—making twenty-three in all—have been given on triumph oil Company's property, and a number of lots sold in fee simple. Among the purchasers we notice the names of some of our shrewdest operators; preparations are being made for rapid development. The Burgiss well, on the Cleland property, has been tubed; thought to be a No. 1 well. Barker well, on Payne property, is pumping about 150 barrels per day; Haines well, same tract, reported at 200 barrels; Pearce well, 95 barrels; Revenue well, 140 barrels; Lincoln well, 100 barrels; Dennis well, — barrels. The above are all new wells—struck last month—and add to the already wide reputation of Dennis Run. The Gilbert well will be tubed next week; great expectations.

California.

We hear little or nothing now-a-days from the Del Norte and San Bernardine petroleum fields. Doubtless many of the companies there are at work, and favorable accounts may come to hand at any moment.

GOLD.

COMPANY.	SHARES.	STOCK.	SITUATION OF MINE.	SECRETARY & PLACE OF BUSINESS.
Acadia			Nova Scotia	H. W. Nelson, 24 City Ex., Boston.
Ada Elmore	200,000	$2,000,000	South Boise, Idaho	B. Lawrence. 157 B'way, N. Y.
Amber	300,000	300,000	Greene Co., Penn.	Geo. W. Grove. 276 S. Third, Phil
Albion		300,000	Halifax, Nova Scotia	H. W. Nelson, 24 City Ex., Boston.
Alps	100,000	250,000	Illinois Central Dist., Col.	J. Stanton, Jr., 25 Nassau, N. Y.
Ascot	50,000	5,000,000	Sherbrooke, Canada E.	G. H. Morrison, 17 Nassau. N. Y.
Atlantic				Chas. Barett, 13 Doane, Boston.
Atlatic & Pacific	50,000	5,000,000	Humboldt T., Humboldt co.	J. N. Sewall, 8 Broad, N. Y.
American	100,000	5,000,000	Gregory Dist.	
American Flag	60,000	600,000	Nevada Dist., Col.	H. Foles, 71 B'way, N. Y.
Astor	200,000	1,000,000	On Comstock Lode	J. Chapman, 71 Broadway, N. Y.
Baltic			Colorado	New York.
Bates & Baxter			Colorado	New York.
Bay State	200,000		Colorado	Lem'l Bangs, Boston.
Benton	100,000	500,000	Colorado	F. W. Capen, 44 Ex. Pl., N. Y.
Black Hawk	50,000	5,000,000	Gilpin co., Col.	D. Littlejohn, 81 John, N. Y.
Beacon		500,000	Halifax co., Nova Scotia	J. B. Post, 20 Ex. Pl., N. Y.
Bobtail	100,000	1,000,000		J. Stanton, Jr., 25 Nassau, N. Y.
Briggs	10,000	1,000,000	Gilpin co., Col.	D. Littlejohn, 81 John, N. Y.
Bradshaw	250,000	1,000,000	Yavapai County, Arizona	O. H. Conover, 219 Dock st., Phil.
Barroughs	100,000	1,000,000		L. Bangs, 22 Pine, N. Y.
Bullion	200,000	1,000,000	Bannock, Montana	69 Liberty, N. Y.
Bullion Consoli.	300,000	300,000	Summit and Clear Creek., Col.	J. P. Whitney, 19 Lindall, Boston
Calvin	200,000	1,000,000	Clear Creek co., Col.	J. P. Whitney, 19 Lindall, Boston.
Canadian				A. Call, 7 Phœnix B'l'g, Boston.
Chem. Gold&S. R				64 B'way
Ch. Up. Gold Co.	240,000	1,200,000		Jesse G. Pitts, 69 Liberty
Chebucto	100,000	500,000	12 miles from Halifax	J. E. M. Gilley, Boston.
Clarendon		500,000	5 miles from Halifax	H. Doane, 41 State, Boston.
Chase	5,000	500,000	Colorado	W. E. Lawton, 81 John, N. Y.
Central Gold M.	20,000	1,000,000	Central City, Col.	L. Bangs, 17 Nassau, N. Y.
Central Mining	200,000	1,000,000	Colorado	46 Exchange Pl., N. Y.
Chandiere	100,000	500,000	5,000 A Famine Riv. C. E.	Wm. B. Fowle. Boston.
Cobden	100,000	1,000,000	Idaho	New York.
Colonial				W. N. Ely, 7 Trav'r B'l'g, Boston.
Colorado Boston			Colorado	R. C. M'Laughlin, 60 State, Bos'n.
Colorado N. Y.			Colorado	12 Pine, N. Y.
Coleman			Colorado	New York.
Columbia	30,000	3,000,000	Austin City, Nevada	10 Pine, N. Y.
Consuelo Gold				54 William.
Consol Gregory	50,000	5,000,000	Gregory Dist., Col.	30 Pine, N. Y.
Cook & Kimball	1,000	150,000	Colorado	W. W. Baldwin. 35 Wm., N. Y.
Copalinshee	250,000	5,000,000	Parke co., Col.	J. C. Stocker, 137 B'way, N. Y.
Corrisannee	100,000	1,000,000	Colorado	New York.
Commonwealth			Nevada	Philadelphia.
Corrydon	100,000	2,500,000	Gilpin co., Col.	46 Exchange Pl., N. Y.
Continental	20,000	2,000,000	Gregory Dist., Col	115 Liberty, N. Y.
Central Gold	200,000	1,000,000		L. Bangs, 22 Pine, N. Y.
Dauphin & Colo.	200,000	1,000,000	Colorado	John S. McMullin, 423 Walnut, Pa.
Day & Bushnell	300,000	3,000,000	Colorado	T. Chalmers, Jr., 20 Ex. Pl., N. Y.
De Lery		10,000,000	Chandiere Valley, Canada E.	J. M. Winchell, 72 Cedar, N. Y.
Denver	50,000	1,000,000	Gilpin & Clear Creek, Col.	J. Wadsworth, 61 Cedar, N. Y.
Devonshire				W. Stockbridge 74 Fr'klin, Bos'n.
Downieville	300,000	300,000	Colorado	J. C. Harriott, 70 Wall, N. Y.
Dorset			Chandiere River, C. E.	F. McJimsey, 59 Wm., N. Y.
Eagle	100,000	1,000,000	Gold Dirt Dist., Col	J. P. Davies, 81 John, N. Y.
East Bannack	100,000	200,000	Bannack City, Montana	J. Callender, 48 Ex. Pl., N. Y.
Eldorado	500,000	2,500,000	San A Dist., 9 miles of Austin.	308 S. Fourth, Phila.
Empire Mill & M				O. F. Griffin, San Francisco.
Enriquetta			Arizona	New York.
Esperanza		500,000	Star D., Humboldt co.	117 Broadway, N. Y.
Etna	50,000	500,000	Nevada Dist., Col.	C. W. Bryant, Boston.
Excelsior	30,000	300,000	Central City, Col.	J. Weatherbee, Jr., 11 P. B'g, Bos.
Fairmount	20,000	200,000	Colorado	John P. Harker, 103 N. 6th, Phil.
Famine Falls	100,000	1,000,000		D. L. Dodge, 80 B'way, N. Y.
Garrisons	100,000	5,000,000	Colorado	C. G. Mease, 29 William, N. Y.
Gem	25,000	1,250,000		H. K. Gates, 191 B'way, N. Y.
Georgetown			Colorado	New York.
Gilbert River				C. E. Jackson, 18 Phe'x B'g, Bos'n.
Gilpin				C. W. Galloupe, 76 State, Boston.
Golconda	250,000	5,000,000	Sherbrooke, Canada E	W. H. Adams, 19 Broad, N.Y.
Gold Field				C. B. Cowling, 39 Kilby, Boston.
Gold Rock	5,000	500,000	Central City, Colorado	R. M. Lockwood, 113 Wall, N. Y.
Gold Hill	50,000	500,000	Colorado	W. T. Eustis, Boston.
Gold Mountain	600,000	6,000,000	Clear Creek Co., Colorado	25 Nassau, New York.
Gold Min'g of Col	50,000	5,000,000	Colorado	E. Latham, 23 William, N. Y.
Golden Gate	60,000	600,000	Sum. Hgld'&Mill'C. D., Mo.	J. Morse, Jr., 117 B'way, N. Y.
Gunnel Central			Colorado	70 Broadway, N. Y.
Gunnel Gold	300,000	3,000,000	Colorado	F. E. Boelison, 78 & 80 B'way, N.Y.
Gregory	20,000	1,000,000	Colorado	Thos. Wildes, 17 William, N. Y.
Granada	50,000	125,000	Colorado	J. Stanton, Jr., 25 Nassau, N. Y.
Great Western	60,000	600,000	Russel Dist., Col.	E. Kenacys, 70 Broadway, N. Y.
Gunnel Gold	100,000	1,000,000	Colorado	F. E. Boelofsen, 78 B'way, N. Y.
Halifax				A. Cage, 7 Phœnix B'l'g, Boston.
Harmony				Demas Barnes, 21 Park Row.
Her'it'ge Ranch	30,000	300,000	El Dorado, Cal.	
Hope	80,000	2,000,000	Gold Dirt Lode, Gilp. co., Col.	J. P. Davies, 81 John, N. Y.
Holman	150,000	300,000	Clear Creek co., Col.	J. O'Neill, 23 Wm. N. Y.
Humboldt	100,000	500,000	Colorado	78 B'way.
Idaho Gold	100,000		Montana	5 Pine, N. Y.
Isaac's Harbor	100,000	500,000	Isaac's Harbor, Nova Scotia	W. F. Shirley, 137 B'way, N. Y.
Isle Royale				44 Ex. Pl.
Kansas Colorado	100,000	1,000,000	Colorado	J. G. Greenlies, 111 B'way, N. Y.
Kent				G. H. Wyman, 19 Phe'x B'l'g, Bos.
Kip & Buell	100,000	200,000	Colorado	J. C. Harriott, 70 Wall, N. Y.
Knickerbocker	100,000	1,000,000	Colorado	F. Avery, 78 B'way, N. Y.
La Crosse	100,000	$1,000,000	Nevada Dist., Colorado	H. Fales, 71 B'way, N. Y.
Liebig	200,000	$1,000,000	Colorado	
Lake Major	12,000	600,000	Nova Scotia	Fred. Franck, 113 Water, N. Y.
Mariposa Gold	100,000	10,000,000	Bear Valley, Cal.	G. W. Farice. 34 Wall. N. Y.
Mammoth	50,000	500,000	Colorado	J. Jarrett. 41 Liberty, N. Y.
Manhattan	100,000	1,000,000	Colorado	W. R. Lothrop, 172 B'way. N. Y
Massachus tts	250,000	1,200,000	Gilpin co., Col.	W. D. Briggs. 11 Phe'x B'l'g, Bos.
Merchants	30,000	600,000	Alturas co., Idaho	Jas. K. Selleck, 157 B'way, N. Y.
Metropolitan				
Mountain Pride	100,000	1,000,000	B'r Ck., St. Boc., Idaho	29 Pine, N. Y.
Montague	50,000	500,000	near Halifax, Nova Scotia	C. B. Cowling, 39 Kilby, Boston.
Mount Alpine			Griffith Dist., Clear Ck. Col.	J. B. Bandol, N. Y.
Mount Vernon	500,000	5,000,000	Mt. V. & Mam'th Dist., Nev.	25 Park Row, N. Y.
Mount Vista	50,000	500,000		J. Chapman, 23 Nassau, N. Y.
Montana	100,000	400,000	Nevada, Hls., Greg'y, Col.	A. L. Guerber, 54 Wm, N. Y.
Monte Christo	100,000	2,000,000	White Pine District, Nev.	Thos. Dunlap, 413 Chestnut, Phil.
Montezuma	100,000	500,000	Colorado	F. B. Webster. Boston.
Montrose	100,000	1,000,000	Clear Creek co., Col.	C. A. W. Sibley. 80 B'way, N. Y.
Morning Star	5,000	5,000,000	Owyhee co., Idaho	E. M. Barnum, 137 B'way, N. Y.
Mexican Pacific	100,000	10,000,000	Mexico	J. Mackie, 88 Wall. N. Y.
Melones & San			Calaveras co	608 Mont, San Francisco.
National	300,000	3,000,000	on So. Boulder Ck., Col.	31 School, Boston.
Nevada Star				25 Pine, N. Y.
New England	50,000	150,000	Black Hawk, Col.	J. Weatherbee, Jr., Boston.
New Mexico			near Santa Fe	
New Gregory				W. A. Kent, 144 State, Boston
New York City	50,000	5,000,000	Gil Canon Dist., Land. co. Nev.	10 Pine, N. Y.
New York Dist.	50,000	500,000	Austin, N. Y. Dist., Nevada	71 B'way, N. Y.
New York of Col	100,000	1,000,000	Colorado	F. E. Boelison. 74 B'way, N. Y
N. Y. & Nevada	100,000	1,000,000	Nevada	J. J. Osborn. 30 Pine, N. Y.
N. Y. G. Min'g.	100,000	1,000,000	Colorado	F. E. Boelofson. 78 & 80 B'way.
N. Y. & Eldor'do	250,000	2,500,000	Nevada	G. H. Munroe. 106 B'way, N. Y.
N. Y. & Idaho			Idaho	180 Chatham, N. Y.
N. Y. & Santa Fe			Nevada	New York.
N.Y. & Owyhee		1,000,000	Owyhee co., Idaho	6 Pine, N. Y.
N. Y. & Oro Fino	10,000	1,000,000	Owyhee co., Idaho	137 Broadway, N. Y.
N. Y. & Reese R			Nevada	New York.
N. Y. & Renfew				2 Murray. N. Y.
N. Y. & Washoe			Nevada	New York.
North Clear Ck.	100,000	1,000,000	Gilpin co., Col.	J. Francis, 80 B'way, N. Y.
Nova Scotia				Chas. Barrett. 13 Doane. Boston
N. Y. & Nova Sc	100,000	1,000,000	Tangier, Nova Scotia	Jos. E. Gay, 3 Hanover, N. Y.
National S Min'g		1,500,000	Owyhee co., Idaho	115 B'way, N. Y.
Occidental	5,000	500,000	Nevada & Hls. C. Dist., Col.	100 B'way, N. Y.
Oldham				Chas. Barrett, 13 Doane, Boston.
Ophir	62,500	625,000	on Comstock Lode, Nevada.	Moses A. Hopkock, 45 William.
Pacific	40,000	4,000,000		24 Pine, N. Y.
People's	100,000	5,000,000	Alpine & Sierra cos.	23 Nassau.
Peck				E. R. Sawyer, 144 State. Boston.
Perigo	60,000	3,000,000	Ind. Dist., Gilpin co., Col.	J. W. Stratton. 90 B'way, N. Y.
Pine Mountain	30,000	3,000,000	Pine Mountain Dist., Nev.	F. K. McCully. 157 B'way, N. Y.
Pioneer & Inskip			Buena Vista Dist., Nevada.	15 Nassau, N. Y.
Phila. & Color'do	20,000	1,000,000	Central City, Col.	E. W. Clark & Co., Phila.
Phelps & Gilm'r	200,000	1,000,000	Colorado	W. H. Steudevant, 25 Nassau.
Pleasant Valley	125,000	1,250,000	Colorado	J. S. Lyon, 69 Wall. N. Y.
Pontiac	50,000	1,000,000	Ill. Cen. M Dist., Col.	R. H. Rickard. 19 Nassau.
Prescott	100,000	1,000,000	Central Arizona	69 B'way, N. Y.
Quaker City			Ind't D't. G'd D't City, Col.	103 South Third, Phila.
Quartz Hill	40,000	100,000	Nevada Dist., Col.	J. A. Tyler. 29 Wall. N. Y.
Rauche Ck	10,200	1,200,000	Pine Wood Dist., Nevada	18 Broad, N. Y.
Realito		1,000,000	G'd Hill D., Storey co., Nev.	117 B'way, N. Y.
Reese River P'l	100,000	1,000,000	AmadorDist., Lander Co., Nev	Elijah Alliger, 67 Wall, N. Y.
Renfrew				W. Stockbridge, 74 F'klin, Bos'n.
Republic	15,000	1,000,000	Amador D., Lander co., Nev.	67 Exchange Pl., N. Y.
Rocky Mountain	50,000	500,000	Grey & Empire Dists., Col.	E. L. Bolles. 70 B'way, N. Y.
Reciprocity	100,000	1,000,000	Canada East	B. B. Grant, Jr., 71 B'way, N. Y
Scorpion			Virginia City, Nevada	617 Clay, San Francisco.
Sherbrooke	100,000	1,000,000	Sherbrooke, Canada East	F. Schumacker, Cliff, N. Y.
Silas Wright	100,000	600,000	Amador D., Lander co., Nev.	18 Wall, N. Y.
Silver State	100,000	500,000	Humb't Starr, Pr. R. D. / Humb't co., Nevada	R. S. Miller, 49 William, N. Y.
Silver Wave	300,000	3,000,000	Reese riv. Lander co., Nev.	Emmet Blair, 243 B'way, N. Y.
Smith & P'rmlee	125,000	2,500,000	Colorado	G. A. Lathrop, 4 Broad, N. Y.
Smithfield	100,000	400,000	Gilpin Co., Col.	A. F. Baum 48 Broad st., N. Y.
Spanish		3,000,000	La Plata, Churchill co., Nev	228 South Third, Phila.
So. Clear Ck			Colorado	Canastota, N. Y.
Starlight Ledge	50,000	500,000	P'ville, El Dorado co.	
Star of Color	200,000	2,000,000	Colorado	J. N. Powers. 22 Pine. N. Y.
Standard	50,000	500,000	Gregory Dist., Col	T. A. Mitchell, 70 B'way, N. Y
Steptoe	20,000	2,000,000	G'd Can., Lander co., Nev.	10 Pine, N. Y.
Sterling City		1,200,000	Colorado	New York.
Stewart	100,000	500,000	Colorado	C. Durham, 31 Exchange, Boston
Suffolk				Carlos Cobb. 22 William. N. Y.
Southard				Wm. Wallace, 11 Doane, Boston.
Stafford				C. E. Jackson. 15 Central. Boston
Taccher	100,000	1,000,000	Colorado	F. J. Wright, 8 Wall. N. Y.
Texas	50,000	500,000	Black Hawk City, Colorado.	Wm. E. Parish, 155 B'way, N. Y.
Triunio			San Antonio, L. Cal.	San Francisco.
Union	240,000	12,000,000	Colorado	F. A. Potts. 110 B'way.
United States	75,000	1,500,000	Colorado	J. P. Stevens. N. Y.
University				31 Nassau, N. Y.
Virginia City	250,000	250,000	Nevada	J. B. William. 78 & 80 B'way.
Wauba Yuma	600,000	6,000,000	Arizona	35 William. N. Y.
Waddingham	48,000	1,200,000	Alturas co., Idaho	Jas. K. Selleck, 157 B'way, N. Y
Waverley				J. Leighton, 97 State, Boston
Windsor Gold M	10,000	100,000	Colorado	25 William. N. Y
Wilson & Cass			Colorado	New York.

LEAD.

COMPANY.	SHARES.	STOCK.	SITUATION OF MINE.	SECRETARY & PLACE OF BUSINESS.
Amenia	100,000	$ 500,000	Duchess co., N. Y.	G. Furman, 77 Cedar, N. Y.
Bucks County	40,000	200,000	Bucks co., Pa.	R. R. Sinclair. 53 Ex. Pl., N. Y.
Canada	50,000	250,000	Canada	Alb. Case, 7 Phe'x B'l'g. Boston.
Clute	110,000	550,000	Macomb T. St. Law. co., N. Y.	Bev'ly S. Merrill, 42 Cedar, N.Y.
Continental	200,000	500,000	Martinsburg, N. Y.	J. Sickles, 57 Ex. Pl., N. Y.
Eastport	100,000	1,000,000	Eastport, Me.	R. Vose, 54 William, N. Y.
Erie	40,000	4,000,000	Orange co., N. Y.	Ogden Gaul. 25 Pine, N. Y.
Hampton	100,000	500,000	Hampshire co., Mass.	C. W. Bryant. Boston.
Jefferson				65 Wall, N. Y.
King's Hill	10,000	50,000		W. L. Hackin. 180 B'way, N. Y.
Lake Superior	200,000	1,000,000	Secs. 5 & 36 T., 49 & 50 R., / 28 & 29 Marquette co, Mich.	C. L. Mather, N. Y.
Lancaster	50,000	250,000	Lancaster co., Pa.	J. R. Sibley. 35 Pine, N. Y.
Macomb	110,000	550,000	Macomb T. St. Law. co., N. Y.	C. F. Scofield. 42 Cedar, N. Y.
Maine	50,000	500,000	Eastport, Me.	A. L. Butler, 54 William, N. Y.
Mineral Point	100,000	500,000	St. Lawrence co., N. Y.	H. W. Warren, 60 City Ex., B'stn.
Morgan	100,000	500,000		W. Williams, 42 Cedar, N. Y.
Manhan				40 B'way, N. Y.
Mount Hope	80,000	200,000	Mt. Hope, Orange co., N. Y.	W. Williams, 24 Pine. N. Y.
New Hampshire	100,000	500,000	New Hampshire	W. A. Farrar, 71 B'way, N. Y.
N. Y. & Boston		1,000,000	Chester co., Pa.	S. M. Cockeid. 22 William, N. Y.
Oswegatchie				24 Pine. N. Y.
Owens Lake	50,000	250,000		C. W. Bond, 78 Cedar, N. Y.
Phœnix	50,000	250,000	Columbia Co., N. Y.	G. W. Butler, 54 William, N. Y.
Placentia Bay	200,000	1,000,000	Newfoundland	J. Simpkins, 29 Wall, N. Y.
Ramsay	20,000	500,000	Township Ramsay, C. W.	C. W. Bryant, Boston.
Rochester	200,000	500,000		J. A. Ferguson, 8 Wall, N. Y.
Rossie				24 Pine, N. Y.
Rosa Chara	100,000	1,000,000		H. Lathrop, 25 Nassau, N. Y.
St. Clair	100,000	1,000,000		H. B. Hawkins, 25 Nassau, N. Y.
St. Joseph	100,000	1,000,000		W. Williams, 6 Broad, N. Y.
Shawangunk	100,000	500,000	Mt. Hope, Orange co., N. Y.	E. P. Ackerman, 48 Pine, N. Y.
Sussex	125,000	625,000	Sparta Town, Sus'x co., N. J.	F. H. Stow, 53 Cedar, N. Y.
Walkill			Orange co., N. Y.	W. A. Scott, 11 Wall, N. Y.
Warren			Warren, Grafton co., N. H.	J. S. Christie, 100 B'way, N Y
White Mountain			New Hampshire	111 B'way, N. Y.

SILVER.

COMPANY.	SHARES.	STOCKS.	LOCATION OF PROPERTY.	SEC'Y AND PLACE OF BUSINESS.
Amazon	25,000	$250,000	Nevada	W. L. Louther, 134 so. 3d, Phil.
Argentine	50,000	250,000	Argentine Dist., Colorado	D. L. Demmon, 134 State, Boston
Arizona	100,000	10,000,000	22 m W of Tubac, Arizona	J. B. Randol. 25 Nassau, N. Y
Astor	200,000	1,000,000	On Comstock Lode, Nev	J. Chapman, 71 Broadway, N. Y.
Atlantic & Pac.	50,000	1,000,000	Humboldt T. Hum't Co, Nev.	J. N. Sewall, 8 Broad st., N. Y.
Big Smoky	20,000	600,000	Smk'y Hill, Lander Co. Nev.	71 B'way
Black Eagle	7,000	350,000	Carson, Owyhee co., Idaho.	O. D. Gardner, 40 Maiden lane.
Bullion	200,000	1,000,000	Bannock, Montana	55 Liberty street.
Bush	50,000	500,000	Austin City, Nevada	176 Chambers st., N. Y.
Combination	5,000,000	50,000	Nevada	J. W. Stoute, Jr., 155 B'way, N.Y
Colorado Con			Cedar Hill Nevada	New York.
Columbia	20,000	3,000,000	Austin City, Nevada	J. E. Smith, 10 Pine street, N. Y.
Conn. & Nevada	120,000	1,250,000	Averill, Churchill Co. Nev	49 Liberty street. N. Y.
Commonwealth	200,000	2,000,000	Gold Hill, Nevada	78 B'way, N. Y.
Cosmos	10,000		Owyhee Co, Idaho	137 Broadway, N. Y.
Del Norte & S'br			Lower California	New York.
Durango	5,000	500,000		W. R. Garrison, 73 W'm st., N.Y.
East Bannack	100,000	200,000	Bannock City, Montana	J. Callender, 49 Ex. P., N. Y.
Empire G. & S.	100,000	10,000,000	Bodie Bluff, Mono	H. R. Gates, 191 Broad'y, N. Y.
Empire and Silver State	20,000	2,000,000	Reese River Dist., Nevada	57 B'way, New York.
Eldorado	500,000	2,500,000	San A 90 m s of Austin, Nev	208 South Fourth street. Phila.
Essex & Diadem	125,000	2,500,000	Sierra dis. Humboldt C. Nev	A. R. Wetmore, 81 Vesey st. N.Y.
Franklin			Nevada	Philadelphia.
Gem	200,000	1,250,000		H. K. Gates, 191 B'way, N. Y.
Globe	100,000	500,000	Austin, Nevada	J. W. Brazier, 26 Pine, N. Y.
Good Hope	20,000	1,000,000	40 m S of Austin, Nevada	80 Broadway, N. Y.
Huron			Montana	New York.
Incas	300,000	300,000	Summit co., Colorado	J. P. Whitney, 19 Lindall, Bost.
Knickerb'r and Nevada	20,000	2,000,000	Union Dis. Nye Co, Nev	H. R. Shotwell, 70 Cedar, N. Y.
Lander Hill			Nevada	74 B'way, New York.
Lincoln		1,000,000	Owyhee Co, Idaho	80 Broadway, N. Y.
Lw'r California	40,000	2,000,000	North Part of Lower Cal	55 William street, N. Y.
Madison	30,000	3,000,000	Nevada	W. W. Perkins, 71 B'way, N. Y.
Macedon			Nevada	Philadelphia.
Manhattan			Nevada	57 B'way, New York.
Merchants	30,000	600,000	Alturas Co. Idaho	157 Broadway, N. Y.
Metropolitan	15,000	1,500,000	Austin City, Nevada	158 Broadway, N. Y.
Morning Star	5,000	5,000,000	Owyhee County, Idaho	137 Broadway, N. Y.
Mount Vernon	500,000	5,000,000	Mount Vernon & Mammoth District, Nevada	New York.
Mount Vista	50,000	500,000		J. Chapman, 71 Bway, New York.
National	15,000	1,500,000	Owyhee Co. Idaho	115 Broadway, N. Y.
Nevada	100,000	300,000	MountainWells. D. Ch. co. Nev	323 Walnut street. Phila.
Nevada	120,000	1,200,000	Nevada	E. L. Boles, 74 B'way, N. Y.
New Y'k & Tone	20,000	2,000,000	Tone City, Nye Co., Nev	71 Broadway, N. Y.
New York	1,500	1,500,000	Austin, Nevada	S. R. Hutchinson, 80 B'way, N.Y.
New York City	50,000	5,000,000	Gold Can Dist. Lander Co. N.	10 Pine street. New York.
New Y'k Dis't ct	50,000	5,000,000	80 m f'm Austin, N. Y. Dis. Nevada	S. A. Hopkins. 71 Broadway, N Y
New Y'k & Nev	10,000	1,000,000	Nevada	J. J. Osborn, 30 Pine street, N. Y
N. Y. & Owyhee		1,000,000	Owyhee Co. Idaho	6 Pine street, New York.
N.Y. & Oro Fino	10,000	1,000,000	do. do.	137 Broadway, New York.
N. Y and Silver Peak	20,000	2,000,000	Nye County, Nevada	R. C. Root, 74 Broadway, N. Y.
N Y. & Santa Fe			Nevada	New York.
N. Y. & Washoe			Nevada	New York.
North Am. M'g			Nevada	Philadelphia.
Ocean Transit		1,500,000	Lower California, Mexico. On Comstock Lode, Nev	24 Pine, N. Y.
Ophir				
Pah Ranagat C'l	50,000	5,000,000	Nevada	26 Pine. N. Y.
People's	100,000	500,000	Alpine & Sierra Counties	8 Pine street. New York.
Phœnix	200,000	2,000,000		48 East 26th street, New York.
Picacho	50,000	2,000,000	Arizona	T. H. Perkins, New York.
Pine Mount'n	30,000	3,000,000	Pine Mount'n Dist. Nev	F. K. McCulley, 100 Bd'wy, N. Y.
Pioneer & Iuskip			Buena Vista Dis., Austin, Nev	15 Nassau street, New York.
Prescott	50,000	2,500,000	Arizona	T. H. Perkins, New York.
Presidential	125,000	2,500,000	Austin, Nevada	Wm. Lemmon, 17 Broad, N. Y.
Republic	15,000	1,500,000	Amador D Lander Co. Nev.	67 Ex. Place, New York.
Revenue Exten.	50,000	500,000	Lander County, Nevada	W. L. Kite, 142 South 4th, Phila.
Rosario & Carmn	5,244	1,480,000	Sinaloa, Mexico	San Francisco.
San Antonio	60,000	3,000,000	Arizona	C. Lamson, 21 Nassau st., N. Y.
Seminole	7,000	1,500,000	Unionv., Humboldt Co. Nev.	L. G. Wilkin, 119 B'way, N. Y.
Silas Wright	60,000	600,000	Amador. D Lander Co. Nev.	18 Wall street, New York.
Silver Hill	40,000	1,000,000	Nevada	J. C. Hitchcock. 62 B'dway, N.Y.
Silver Series		1,000,000	Lander Co., Nevada	W. B. Rogers. 117 B'way, N. Y.
South Boise, T Co	200,000	2,000,000	Alturas Co., Idaho	A. M. Palmer, 19 Broad st., N. Y
Star Hill	20,000	1,000,000	Nevada	155 B'way.
St'h Cl'r Crk			Colorado	Canastota, New York.
Stephenson	500,000	1,000,000	18 m E of Ft. Fillmore	A. S. Kellogg, 22 Pine, New York.
Steptoe	20,000	2,000,000	Gold Can. Lander Co. Nev.	10 Pine, New York.
Sterling City		1,200,000		New York.
Tarshish	12,000	1,200,000	Toryabee Range, Un. D., Nev	H. S. M'Collum, 78 B'way, N. Y
Tempest	200,000	1,000,000		L. Bangs. 17 Nassau, N. Y.
Trumbo			San Antonio, Lo'wr Cal	San Francisco.
Toiyabee	50,000	5,000,000	Fine W'd, Mo'tn Dis. Nev	J. M. Brown, 157 B'wy, N. Y.
Union & El D'o.	100,000	1,000,000	Mogul Silver Mo'tn	40 Park Row.
Upper Missouri.		100,000	Montana	107 Broadway.
Vedder	21,000	2,100,000	Amador Dist., Nevada	L. G. Bingham, 80 B'way, N. Y.
Wamba Yuma	600,000	6,000,000	Arizona	35 William street, New York.
War Eagle	50,000	200,000	Owyhee Co., Idaho	G. M. Eldridge, 144 S. 4th, Phil.
Washington	22,500	2,250,000	Austin, Nevada	S. R. Hutchinson, 80 B'way, N.Y.
White Mountain			New Hampshire	111 Broadway, New York.

COPPER.

COMPANY.	SHARES.	CAPITAL.	SITUATION OF PROPERTY	SEC'Y., AND PLACE OF BUSINESS.
Adventure,	20,000		Parts of Sections 35, 36, T. 51, N Range 38 W,	W. H. Smith, 51 Ex. Pl, N. Y.
Etna,	20,000		1226 A in Secs. 6, 7, 18, T. 58, N. R 28, W Keweenaw co. Mich.	B. A. Hoopes, 324 Walnut St. Phil.
Alb'ny & Bost'n,	20,000		Secs 7, 8, 9, 10, 11, T. 55, R. 33	Fred. Beck, 43 City Ex., Boston.
Anita,	20,000		Del Norte co., California,	8 Wall St., N. Y.
Algomah,	20,000		W½ S. 30, T. 51, R. 37,	L. W. Clark, Boston.
Allouez,	20,000		Town 57, R. 32, Sec. 31,	Horatio Bigelow. Boston.
Amy gdl'yd'l.,	20,000		E½ Secs. 16, 21, T. 58, R. 30, NW¼ Sec. 5, T. 57, R. 31, 160 A,	F. H. Womrath, 324 Walnut St. Philadelphia.
Arcadian,	20,000		NW¼ Sec. 20, T. 57, R. 33, 160 A,	C. P. Dixon. 48 Pine St. N. Y.
Astor,	20,000		NW¼ Sec. 5, T. 57, R. 31 A.	W. Boardman. 35 Court St. Boston.
Atlas,	20,000		NE¼ of E½ & NW¼ of NW¼ Sec. 31, T. 57, R. 31,	L. W. Clark. Boston.
Aztec,	20,000		W½ Sec 31, T. 51, N. of R. 37,	L. W. Clark. Boston.
Bay State,	20,000		SW¼ Sec. 29, T. 58, R. 31,	L. W. Clark, Boston.
Beaver,	20,000		NE¼ Sec. 32, T. 58, R. 31,	A. W. Boardman. Boston.
Bohemian,	20,000		E½ Sec. 31, NW¼ Sec. 32, T. 51, R. 37, W,	R. H. Rickard. 21 Nassau St., N Y.
Boston,	20,000			H. W. Warren. 60 City Ex., B'st'n.
Canada,	100,000		Brome co., Canada East,	H. P. Mount. 3 Hanover St., N. Y.
Carp Lake, M.,	20,000		T. 51, N. R. 43, W. S½ of N½ of N. Sec. 14, and E¼ Sec. 23, and NE¼ Sec. 23, 440 A,	W. H. Abel. 70 Wall St., N. Y.
Cascade, M.	20,000		SW¼ Sec. 9, T. 49, N. R. 39, W, in Ontonagon co., Mich.,	G. F. Riley. 35 Wall St., N. Y.
Copper Creek,	1,000	$100,000	Missouri,	H. M. Thompson. Missouri, Mo.
Copper Falls,	20,000		Sec. 14, T. 58, N. R. 31, W, Keweenah Point,	97 State. Boston.
Copper Harbor,	20,000		S½ Sec. 10, T. 58, R. 28, 320 A. Keewenah co.,	Fred. Beck. 43 City Ex., Boston.
Copper Creek,	20,000	500,000	Douglas co., Wisconsin,	T. B. Lawson. 71 Broadway, N. Y.
Central,	20,000	500,000	E½ Sec. 23, T. 58, N. R. 31, W,	J. Stanton, Jr., 25 Nassau, N. Y.
Cornwall,			Strafford, Orange co., Vt.,	D. H. Whitney. 17 State St., B'n.
Continental,	200,000	500,000	Martinsburg, New York,	J. Sickles. 50 Ex. Pl., N. Y.
Corinth,	20,000	500,000	Corinth, Orange co., Vermont,	W. A. Cleveland. 191 B'way, N.Y.
Copper Hill,			Wisconsin,	Boston.
Dacotah,	20,000		Sec. 35, T. 55, R. 34, Portage Lake,	J. M. Cooper, Milk St., Boston.
Delaware,	20,000	500,000		S. M. May. 326 Walnut St., B'st'n.
Derby,			Ontonagon co., Mich.,	P. C. Blancan. 35 Wall St., N. Y.
Dorchester,	20,000		800 A.,	31 and 32 City Ex., Boston.
Douglas,	20,000		E¼ Sec. 30, T. 55, R. 3,	S. J. Edwards. William St., N. Y.
Dudley,				H. Bigelow 45. City Ex., Boston.
Eagle River,	20,000		T. 58, R. 31, Secs. 28, 29, 33, 34,	A. Lamson. 70 State St., Boston.
Ely,	100,000	500,000	325 A., Richmond, Canada East,	Ernest Sacchi. 82 B'way, N. Y.
Empire,	20,000		1798 A., Secs. 1, 2, 11, 12, T. 58, N. R. 28, W. K'w'n co., Mich.,	J. S. McMullin, 423 Walnut, Phil.
Eureka,	20,000		W½ Sec. 2. T. 49, N. R. 41. W. Ontonagon co.,	H. Shirley. 137 B'way, N. Y.
Evergreen Bluff,	20,000		NE¼ Sec. 6. T. 50, R. 38,	F. W. Capen. 44 Ex. Pl., N. Y.
Flint Steel R.,	20,000		Sec. 11, 12, T. 59, N. R. 39, W,	F. K. McCully. 157 B'way, N.Y.
Forest City,	20,000		320 A. NE½ Sec. 36, and SE¼ Sec. 25, T. 51, R. 43,	J. F. Paul. 19 Phœnix Building, Boston.
Franklin,	20,000		¼ Sec. 24, T. 55, N. R. 31 W.,	C. Emery. 26 Kilby St., Boston.
Franconia,	60,000	300,000	New Hampshire,	J. Hanna, 162 Fulton St., N. Y.
French Creek,	100,000		Chester co., Pennsylvania,	R. Roberts. 19 Nassau St., N. Y.
Garden City,	20,000		SW¼ Sec. 60, N. W. Sec. 59, T. 58, N. R. 31 W,	R. H. Howe. Chicago.
Girard,	20,000		600 A. Sec. 15, T. 58, N. R. 28, W. Keweenaw co., Mich.,	B. A. Hoopes, 324 Walnut, Phil.
Gr'd Portage,	20,000		SW¼ Sec. 36, R. 34, W.,	A. S. Kellogg. 22 Pine St., N. Y.
Great Western,	20,000		SE¼ Sec. 30, & SW¼ Sec. 29, T. 21, R. 329 A., Ontonagon	J. M. Cooper, 24 City Ex., B'st'n.
Hamilton,	20,000		SE¼ Sec. 35, S½ Sec. 36, T. 50, R. 41, SW¼ Sec. 21, R. 20, 14¼ A.,	J. B. Townsend, 44 Exchange, N. Y.
Hancock,	20,000		SW¼ Sec. 26, Tract of Sec. 25, T. 5, R. 34, W.,	Fred. Beck, 43 City Ex., Boston. do. do. do. do.
Hanover,	20,000			
Hartford,	20,000	500,000	320 A. E½ & SE¼ Sec. 32, SW¼ & W½ Sec. 33, T. 50, R. 40, W,	T. M. Tyng. 61 Cedar St., Boston.
Henwood,			Michigan,	57 Broadway, N. Y.
Hope,	20,000	50,000	240 acres in T 57, R 32, Kw co	19 Nassau St., New York.
Humboldt,	20,000		Sec. 21, T. 58, R. 31, W,	Hor Bigelow, 43 City Ex., B'st'n.
Hudson,	20,000		Ontonagon co.,	P. C. Blancan. 35 Wall St., N. Y.
Huron,	20,000		Sec. 2, T. 54, R. 34, W,	Hor Bigelow. 43 City Ex., B'st'n.
Isle Royale,	20,000		NW¼ Sec. 1, T. 54, R. 34, W,	F. W. Chapen. 33 Ex. Pl. Boston.
Keweenaw,	20,000	500,000	Michigan,	F. W. Chapen, 44 Ex. Pl., Boston.
Knowlton,	20,000		SE¼ Sec. 1, W¼ of SW¼ Sec. 1, and other lands,	44 Ex. Pl., N. Y.
Lafayette,	20,000		Secs. 25, 30, 36, T. T. 51, N. R. 43, and 44, W, Ontonagon,	P. C. Blancan, 35 Wall St., N. Y.
Lyster,	200,000	$400,000	Township Nelson, Canada East,	H. W. Nelson, 24 City Ex., B'st'n
Lower California	40,000	2,000,000	N. part of Lower California,	55 William St., N. Y.
Madison,	20,000		Part sec. 18, 19 entire. 30. 31.	Fred. Beck. 43 City Ex., B'st'n.
Merryweather,	20,000		Secs. 9, 19, T. 48, N. R. 4, W,	J. T. Waters, New York.
Mandan,	20,000		680 A. Secs. 8, 17, 19, 30, T. 58, N. R. 29, W., Keweenaw co., Mn.,	B. A. Hoopes, 324 Walnut, Phil.
Manhattan,	20,000		W½ Sec. 11, NW¼ Sec. 14, T. T. 58, N. R. 32, W, 360 A.	J. W. Davies, 21 Nassau St., N Y.
Mendotta,	100,000	500,000		M. Taylor, 30 Wall St., N. Y.
Mass. M. Co.,	20,000		SW¼ Sec. 7, T. 50, N.R. 38, W,	J. M. Cooper. Pittsburgh.
Menard,	20,000		NE¼ Sec. 24, T. 55, R. 34,	L. Burr. 12 Phœnix B'gs, Boston.
Melones & Stan.,			Calaveras co.,	606 Mont St., San Francisco
Minnesota,	20,000		Sec. 15, T. 50, N. R. 39, W,	S. M. Pond, 12 Pine St., N. Y.
Maryland,			Maryland,	Baltimore.
Merrimac,	20,000		NW¼ Sec. 34, T. 51, R. 38, W, Ontonagon,	J. M. Mills, 284 Pearl St., N. Y.
National,	20,000		Sec. 16, T. 50, R. 39, W. 1,988 A.	J. M. Cooper, Pittsburgh.
Native,	20,000		Keweenaw Point, Michigan,	
Nashua,	50,000	100,000	320 A. N. Ontonagon,	W. F. Hardy. 27 City Ex., B'st'n.
Nebraska,	20,000		NE¼ Sec. 12. T. 50, and other lands,	S. W. J. Webb, 54 Wall St., N. Y.
Nequakett,	20,000		Sec. 26. T. 51. R. 43,	G. S. Frost. Detroit.
New York,	20,000		240 A SE¼ Sec. 10, E½ NE½ Sec. 15,	H. W. Nelson, 24 City Ex., B'st'n.
New Burra,			Baltimore,	R. Robarts. 19 Nassau St., N. Y.
New Jersey Con.	100,000	1,000,000	New Jersey,	W. Bowes, 68 Wall St., N. Y.
N. Y. & Passaic,	100,000		Harrison, Bergen c.,	T. H. Belt, Jr. 23 William St., N.Y
New Devon,				T. H. Belt, Jo, do. do.
North Western,	20,000		W½ Secs. 24. 25. 26, E½ Secs. 36. 35. T. 58. N.R. 31.	17 William St., N. Y.
Norwich,	20,000	500,000	Secs. 11. 12. T. 40. N.R. 39. W. and other lands. 1,300 A.,	J. M. Cooper, Boston and Detroit.
Ogema,	20,000	500,000	NW¼ Sec. 6. T. 50. N.R. 35. W.	P. C. Blancan. 35 Wall St., N. Y.
Ontonagon,	20,000		631 A. Secs. 20. 21. 28. T. 50. N. R. 39. W. Rockland,	G. E. Leffingwell, 7 Pine, N. Y.
Ont'n'g'n, Mass.	20,000		Ontonagon,	G. Hart. 11 Pine Street. N. Y.
Otisville,	100,000	500,000	Otisville, Orange co., N. Y.,	William D. Williams. Michigan.
Penn. Manuf'g.,	20,000	1,000,000	4,320 A. Secs. 13. 14. 15. 24. ½ Secs. 10. 11. 12. 23. 25. T. 58. N. R. 30. W.	C. Windsor, 69 Wall St., N. Y.
Pewabic,	20,000		W½ Sec. 25. T. 55. N.R. 34. W.	S. M. Day. 326 Walnut St., Phil.
Pitts. & Boston,	20,000		Ts. 58. 57. N. R. 31. 32. W. 12,405 A.	C. Emery, 39 State, Boston.
Pontiac,	20,000		SE¼ Sec. 13. T. 55. N. S. 31, W.	H. A. Johnston. Pittsburgh.
Portage Lake,	20,000		Houghton co. Michigan,	C. Emery. Kilbey St., Boston.
Prescott,	100,000	1,000,000	Central Arizona.	22 William St., N. Y.
Providence,	20,000	500,000	240 A. in Keewenah co. NW½ Sec. 19. W½ NW¼ Sec. 19, T 57, R. 32. W.	69 Broadway, N. Y.
Phila. & Boston,	20,000		640 A. Sec. 14. T. 58. N. R. 28. W. Kewenaw co. Mich.	J. W. Davis. 21 Nassau St., N. Y.
Quincy,	20,000		Sec. 26. T. 54. N. R. 34. W,	J. S. McMullin, 423 Walnut St., Boston.
Republic,	8,000	200,000		W. H. Smith. 51 Ex. Pl., N. Y.
Reliance,	20,000		Secs. 21. 22. 27. T. 58, N. R. 28. W, 10,785 A.	H. Baldwin, 70 Wall St., N. Y.
Rochester,	200,000	500,000		H. K. Thomas. 11 Wall St., N. Y.
Ridge,	10,000		Sec. 35. T. 51. R. 38. W,	J. A. Ferguson. 8 Wall St., N. Y.
Rockland,	20,000		Secs. 11. T. 50. R. 39.	51 Exchange Place, N. Y.
Resolute,	20,000		1,120 A. Secs. 7. 18. 19. T. 53. N. R. 29. W. Keweenaw co., Mich,	S. J. W. Barry, 71 B'way, N.Y.
St. Mary,	20,000			F. Beck. 45 City Ex., Boston.
St. Margaret,	200,000	1,000,000	Canada,	E. B. Sutton, 43 Pine, N.Y.
Sharon,	20,000		Ontonagon co., Mich.,	P. C. Blancan, 35 Wall St., N. Y.
Sheldon & Col.,	20,000		SE¼ Sec. 36. T. 55. R. 34. W,	S. J. Edwards. 22 W'm. St., N. Y.
South Side,			SE¼ Sec. 34. T. 55. R. 34. W,	H. W. Nelson, Boston.
Societe Fran'se,	10,000		T. 58. 59. N. R. 28. 30 W,	Copper Harbor.
Suffolk,	20,000			Carlos Cobb. 22 William St., N.Y
Superior,	20,000		W¼ Sec. 14. T. 50. N.R. 39. W.	S. J. W. Barry. 12 Pine St., N. Y
Toltec Consol.,	20,000		Secs. 25, 26, R. 50, R. 36,	H. W. Nelson, Boston.
Union,	20,000	500,000		A. S. Kellogg, 22 Pine St., N. Y.
Ural,			Wisconsin.	17 William St., N. Y.
Vulcan,	20,000		1,120 A. Secs. 7. 17. 18. T. 58. N.R. 27. W. Keweenaw co.,	F. K. Womrath, 324 Walnut, Phila.
Victoria,	20,000		Secs. 20. 29. 30. 34. T. 50. R. 34, and other lands,	L. W. Clarke, Boston.
W. Minnesota,	20,000		Secs. 17. 18. 19. T. 59. N. R. 39. W.	C. T. Howard, Boston.
Wickopee,	100,000	500,000	Massachusetts.	G. A. Sueden, 12 PineSt., N. Y.
Vermont,	100,000	500,000	W. Fairlee, Orange co., Vt.,	191 B'way, N. Y.
Wauia Yuma,	600,000	6,000,000	Arizona,	35 William St., N. Y.

S, means section; T, township; R, rang'

AMERICAN
Journal of Mining.

[ILLUSTRATED.]

GEORGE FRANCIS DAWSON,
EDITOR.

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NEW YORK, SATURDAY, JUNE 30.

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REFRACTORY ORES AND AVAILABLE PROCESSES.

In the whole course of possible mining disasters, none has hitherto been more discouraging to the miner than ascertaining that the rich ores of his lode are refractory; and among all the notably good mining districts in the United States, perhaps none have suffered more in this respect than Colorado and the Reese River district, in Nevada. As an ordinary thing, the mines on the Comstock possess argentiferous ores, needing comparatively simple treatment. Yet, in spite of our vaunted knowledge of adequate processes for such ores, we learn from a report made by W. T. Rickard, the eminent English mining engineer, in the course of his recent investigations—which included an elaborate series of experiments at one of the Storey county mills—that *one third of the value of the entire amount of ore raised from the Comstock, say five million dollars in silver and gold, is thrown away in the tailings!* We have not the slightest doubt, from what little we have seen and heard of the reduction works in Nevada, that Mr. Rickard's estimate is *within* the bounds of truth, and we believe, with him, that the Comstock ores need roasting and dechlorinizing, which can be done at a cost of but five dollars (coin) per ton, by which means most of the escaping five millions of dollars per annum might be saved. But if this be true of the Comstock ores, what of the Reese River ores? Although generally the veins in Lander County are narrower than those in Storey, they are at the same time considered much richer, and harder to *beneficiate*, or work in process. Reese River tailings, generally, are marvellously rich in silver and gold, and but for Colorado the attention of processmen would be devoted more to that region than to any other. At present we know of but one—Mr. Corbett—operating at Reese River. He claims, by his furnace, to have reduced the cost of roasting from $18 per ton to $3.50; yet, while this is an advantage of $14.50 per ton saved, we are not aware that he claims to or does extract more bullion by his method than has heretofore been taken out. But, turning to Colorado—the great arena whereon the process-gladiators do battle—where the veins are of great width and easy of working, as well as containing rich and rebellious ores—we find that dozens of processes have been tried without success. The "Hagan," "Atwater," "Mason," and "Wolfe" processes are, we believe, among the things of the past; and still more recent accounts tell us that the "Crosby and Thompson" fails to come up to public expectation, while Lyon's Smelting Works, and the process of Keith, Behr & Keith, monopolize attention. To gain and place before the mining public such information as is demanded by those interested in the mines of Colorado and elsewhere, we recently addressed triplicate notes to Mr Lyon, Mr. B. Keith, and Mr. Wetherbee (of the Crosby & Thompson process), as follows:

OFFICE OF THE AMERICAN JOURNAL OF MINING,
37 PARK ROW, N. Y., JUNE 2d, 1866.

DEAR SIR: For the benefit of the mining community in general and Colorado in particular, I take the liberty of requesting categorical answers to the following questions—so far, at least, as you can furnish them without prejudicing private interests:

First—What has been the average amount of bullion, per ton, extracted by your process from Colorado ores?

Second—At what cost per ton was said ore extracted from the mines?

Third—At what cost per ton was it transported from the mine to your reduction works?

Fourth—What was the cost of reduction per ton?

Fifth—What was the cost per lb. for transmission of bullion to New York?

Sixth—What was the average amount of ore per diem run through your reduction works after they were fairly started?

Seventh—About how much would similar works cost, independent of price charged for using your patented process?

Eighth—What do you charge for the use of your process?

Your most obedient servant,
GEO. FRS. DAWSON.

To which the following replies have been received:

18 EXCHANGE PLACE, New York, June 21, 1866.

GEORGE FRANCIS DAWSON, ESQ., ED. AMERICAN JOURNAL OF MINING:

DEAR SIR: In reply to your favor of 2d inst., I would say our smelting furnaces in Colorado were built at a cost of $350,000, and are capable of smelting 25 tons per day. The average yield per ton of pyrites is about $150, and of argentiferous galena $100 per ton. The ore is extracted from the veins at an average price of $10 per ton. Transportation to furnaces from veins will not exceed $2 per ton. Cost of smelting not exceeding $30 per ton. Cost of transportation of bullion to New York 2½ per cent. Our process for smelting is not patentable, neither is it any secret, it being the process for treating these ores in Europe for centuries. Any other inquiries you wish to make will be promptly answered.

I am respectfully yours, JAMES E. LYON.

NEW YORK, June 26th, 1866.

TO GEO. FRANCIS DAWSON, ESQ., EDITOR AM. JOURNAL OF MINING:

SIR: Your note relating to the "desulphurizing process" patented by B. Keith, A. Behr and N. S. Keith, has been received, and in reply I would say:

First. The yield of Colorado ores by this process, with new amalgamating and pulverizing machinery, has been from $40 to $150 per ton of 2,000 lbs.

Second and Third. The Mammoth Company (where the process is used) have bought their ores.

Fourth. The cost of desulphurizing, pulverizing and amalgamating, is about $10 per ton.

Fifth. The cost of transportation of gold from Colorado to New York city is from 1½ to 3 per cent.

Sixth. The present working of the Mammoth Company is about 20 tons per day. Machinery is on the way to increase the above quantity to the full capacity of the furnace, viz: 40 tons per day.

Seventh. It will cost about $50,000 to put up works by this plan to work from 40 to 50 tons per day.

Eighth. $5,000 is charged for the right to use the process, with full instructions. Yours respectfully, B. KEITH.

From these notes it will readily be perceived that both the Lyon and Keith processes are *bona fide* successes, because the above are results of *actual working of ores for months and months on the mining ground*. As to the comparative merits of the two methods, readers can judge for themselves. The works, in one case, appear to cost more than the other, and are more expensive to run, but then the average yield seems to be much higher. Perhaps one process will work better than the other, according to the nature of the ores treated, and perhaps—a hundred things more. But one thing is certain: there is ample room in Colorado for both systems, and so long as they produce such results, at such rates of cost, they are both likely to be popular.

It will be seen that Mr. Wetherbee has not yet replied, which may possibly be owing to the failure of the Crosby & Thompson process, at the works of the Manhattan Co., at Black Hawk, the Colorado at Nevada City, the Excelsior works at South Boulder, (all in Colorado,) and the Enterprise Co.'s works in Meadow Lake district, Nevada county, California, in all of which places, we understand, it did very well for a while, but soon burned out. However, what the mining public have long desired to learn, are the facts submitted through the above notes of Mr. Lyon and Mr. Keith, which seem to be full, and must prove satisfactory to those who are interested in the fractious lodes of Colorado. Hereafter we shall have something more to say on the subject, in connection, perhaps, with descriptions of both processes. In the meantime, however, we have results, costs, etc.—matters that have heretofore been so hard to get—and for which, in behalf of the mining community, we thank Mr. Keith and Mr. Lyon.

SHALL OUR MINES BE REPRESENTED?

It has been suggested that it would be well to procure as large a block of American anthracite as can be mined, for the purpose of sending it to the great Exhibition at Paris. Why not do more? Let lumps of our brown and bituminous coal be sent also, and with them specimens of iron and other ores and metals from the same neighborhood. These would bear undeniable testimony to the excellence and abundance of our wealth in "coal and what depends on coal," and would furnish a strong hint to the working miners and smelters of England, France and Belgium, that where such raw materials are found in such profusion there must be abundant need and good compensation for the services of skilled labor. Specimens from the copper mines of Calaveras county and the coal mines of Mt. Diablo, might be sent with advantage from California; for we never could understand the propriety or necessity of sending copper ores all the way from that favored State to Wales, to be smelted. Specimens of salt, from Saginaw, would also be useful, with prices of coal there, description of coal fields and cost of salt and soda in America. It does seem strange that with the raw material quite as available as in England, we should have to import salt and soda from that country, and be unable to procure a sufficient supply of the latter for our glass-works and other industrial requirements. In fact each State and Territory of the Union containing minerals or metals, should make up its cabinet for the Exhibition. Such specimens, and the statistics with which they should be accompanied, would appeal to the eye and mind of workman and capitalist, and probably induce capital and labor to work fields that are now lying unproductive for the want of both.

American Mining.

From nearly all the Western States and Territo-

ries we are in the receipt of cheering news. In most of them the yields of precious metals were never more abundant. In Arizona, work has been suspended (so a recent telegram states,) on the Sierra Colorado, Santa Rita, and Mowrey mines, in consequence of the scarcity of provisions, and danger from hostile Indians. As a set-off to this, dispatches from Colorado state that the mining season in that Territory is opening with better promise than at any time during the past three years, especially in the gulch, bar, and *placere* diggings—mining being pushed with remarkable activity. From the Northern and Middle States, coal, iron, lead, and copper mining progresses visibly, while from the South most encouraging mining accounts are at hand. To crown all, New Jersey comes out this week as a silver State (see "Correspondence"). Altogether, we have reason to rejoice at the "Situation."

The Mineral Land Bill.

Yesterday's city papers contained in their dispatch from Washington, the following ominous dispatch:

Mr. Stewart called up the bill to regulate the occupation of the mineral lands, and to extend the right of pre-emption, which, after a discussion, was passed.

So the U. S. Senate—wherein the mining States and Territories are numerically better represented than in the House—has done nearly all in its power to damage the great mining interests of the nation. The bill thus passed is but a re-vamp of Senator Sherman's obnoxious bill—the modifications amounting to little or nothing. However, it is one consolation to reflect that the House of Representatives, which adopted the Kasson resolutions—and is therefore to that extent bound by them—cannot pass this injurious bill without stultifying itself. Better have no legislation than *such* legislation.

The Pacific Railroad.

The Senate bill allowing the California Central Railroad to come Eastward, as fast as it can be built, and the Kansas branch of the Union Pacific Railroad, to go West after reaching Fort Riley, has passed the House of Representatives, and will probably received the President's approval. The Union Pacific Railroad is said to be in the hands of the Pennsylvania Central Railroad Company and their Western connections, so that there is now a continuous guage from New York and Philadelphia to near Fort Riley, Kansas, with only one unbridged river intervening at St. Louis, and that will soon be bridged.

Cornish Pumping Engines.

The London *Mining Journal* says: "The number of pumping engines reported for April is twenty-six. They have consumed 2,351 tons coal and lifted 18.2 million tons of water ten fathoms high; the average duty of the whole is, therefore, 52,100,000 lbs. lifted one foot high by the consumption of 112 lbs. coal. The best work done was by the Wheal Seaton, Tilley's 70 inch. It lifted 71.1 millions of pounds. We sometimes hear that engines at our mines do not accomplish so much as the Cornish engines in England. We have here, then, a datum by which to make comparison, and shall be glad to hear from competent persons on the subject.

Native Lead.

Mr. S. R. Burrell, 71 Broad street, has shown us a fine specimen of native lead, weighing 49½ lbs., found at twenty-five feet below the surface, on the land of Messrs. Comstock & Vermilye, at Galena. These gentlemen have been doing surface work for the past two years on this lot of 160 acres, and are desirous of forming a company to work the land fully. We understand Mr. Vermilye is a son of the banker of that name.

Timbering the Prairies.

The bill recently introduced for the purpose of promoting the planting of the vast area of Prairie land in the Western States, has been amended under the auspices of Judge Edmonds, of the Land office. It gives to the Ottawa Indian University of Kansas 200,000 acres of land, to be paid for in plants, cuttings and seeds, as hereafter to be arranged. The title-deeds are to be withheld until one hundred miles of hedge is raised and ten thousand acres of land planted with forest trees.

The Atlantic Cable.

Last Thursday, June 28th, was the day decided upon for making the third and probably last attempt to unite the New and Old Worlds, by sub-Atlantic telegraph wires. At least the Great Eastern was to leave the Nore at that time for that part of Ireland from which she will take her final departure. The present cable is stronger than its predecessors; but the principle of construction is the same, and so are the "paying out" machines, which makes one fear another failure.

The Russo-American Telegraph.

A dispatch from San Francisco, June 25th, states that Col. Bulkley, engineer in charge of the Russian Telegraph Expedition, with Count Amassoff, Imperial Commissioner, and others, started the day before, in the Western Union Telegraph Company's steamer *Wright*, for Petropaulowski and thence to Behring's Straits, and points on the Russian and American coasts. Four of the Company's barks had previously sailed, and two more were getting ready for sea.

Errata.

"Somebody blundered."

Owing to circumstances, the Editor failed to see the "proof" of the valuable Geological Scale—prepared for the JOURNAL, by Dr. Stevens, and which appeared in our last issue—in consequence of which several annoying typographical blunders occurred. However, we presume our scientific subscribers—for whom the article was intended—saw them at a glance.

Scientific Meetings.

SOCIETY FOR THE ADVANCEMENT OF SCIENCE AND THE ARTS.

Monday evening, the discussion on alcoholic liquors, more particularly with respect to fusel oil, or amalic alcohol, was first taken up. The chairman said there was no doubt but that a change did take place in liquor after being bottled and kept for some years, and he should be glad if any one could throw light on the subject, to show what the change really was, and what chemical combinations produced it. . . . . Professor Seely said that some years ago he had taken considerable pains to inquire into the quality of the liquors used in this city, and he came to the conclusion that the cheapest were really the least injurious. He found that there was really very little wine, brandy, rum, etc., used, but that the greater part was a manufacture from the liquor, containing ninety-five per cent. of pure alcohol, obtained from the rectifying houses, and afterwards diluted with water, colored with burnt sugar, and flavored with wholesome spices. He at that time got liquors sold at the groceries at "Five Points," and went through the recipes given in the many editions of spirit-dealers' handbooks, and found little of a hurtful nature in them; they were not very intoxicating, and acted more upon the stomach than upon the head. He had been consulted within the last few weeks as to whether the commercially higher qualities given to liquor by age could be produced by chemical means. He said: Certainly; we had only to find out what effects are produced, and by what agencies, and chemistry can doubtless produce similar effects in less time. He had manufactured spirits by chemical agencies, and had taken them to the bars of first class houses and they had been pronounced to be of very good quality. He thought that other means would be found of ageing liquors than by causing them to be penetrated by the natural air, which, however, was the practice in vogue now, and for which recently patents have been taken out. . . . Mr. Fisher then exhibited drawings of his Traction Engines for running on common roads. He undertook to build steam carriages, which should run as cheaply, with as great comfort as, and less dirt than, the present carriages; and also that they should not be any annoyance to others, or objected to by the authorities. In reply to questions, he said he had ascended all the heights in the neighborhood with his own steam carriages, and had gone up a hill, over loose stones, before they had been bound together by travel; that the grip upon the ground was much greater than could be obtained on smooth iron rails, and hence the carriages could be run with greater pressure of steam. He would not, however, advocate building one kind of carriage for both good and bad roads, as on a good road there is no necessity for such powerful engines, and for the contrivances which would be necessary on bad roads. He had run a carriage containing fifteen people at the rate of twenty-four miles per hour. On being asked, "why, then, have they not been introduced into general use?" he said, "the invention of running steam carriages on common roads was made above one hundred years ago, when appliances for cheap construction were not available as they are now; that now the patents have run out, and there are only minor advantages for which patents can be secured, and consequently no engine works would go to the expense of laying themselves out to build these carriages on a large scale, without the guarantee of a monopoly." If this could be had, he knew many engineers who would at once "take hold of it." Sharp, Maudsley, Field, and other large railway engine makers, in England, had each taken out patents and built engines, but they found that the small improvements they secured to themselves would not amount to a monopoly, and they gave it up. It would require a special act of the Legislature to give a patent insuring special protection. These engines are, however, gradually forcing themselves into use in England and France, and, no doubt, must do so here.

Original Papers.

[WRITTEN FOR THE JOURNAL OF MINING.]

SALT—Number Six.

By FRANCIS E. ENGLEHARDT, Ph. Dr., Professor of Chemistry in St. Francis Xavier's College.

Rock salt, as indicated in a former number of the JOURNAL OF MINING, occurs in almost every known formation in our globe, but its proper position appears to be the new red sandstone, a member of the triassic period. The saliferous, or salt-bearing rocks, are mostly argillaceous, and marly beds, variously colored (red, yellow, black and green), alternating with variegated sand stones. The salt itself occurs in layers, or detached and centricular masses. (England and Wieliczka,) from a few inches to several hundred feet in thickness, and sometimes extending more than three-fourths of a mile. Sometimes the salt fills up crevices and fissures in rocks, and occasionally it forms only small seams in the layers of clay and sandstone, as, for instance, in the Island of Lorenzo, off Lima, and on the shores of Peru. According to Karsten, the stratification of the rocks is generally interrupted where salt deposits occur, and the salt masses are always surrounded by a thin layer of clay, called salt clay. Perfectly clear or white salt is rare, since it is found always associated with gypsum and clay. In many localities, moreover, anhydrite—gypsum without water—bex in Switzerland—sulphate of baryta, and stronita, sulphur, bituminous substances, calespar, polyhalite, stinkstone, (an impure fœtid limestone,) chalk marl and slates accompany it. In the Wieliczka salt, naphtha has been observed, contained in small cavities within the salt itself; most of the rock salt contains also small quantities of either the chlorides of calcium, magnesium potassium, traces of iodine, or the sulphates of potassa, soda and magnesia. The mineral glauberite was first

discovered in rock salt, at Villa Rubia, near Oceana in New Castile, Spain. Some count also, boracite among the minerals which accompany rock salt, since it is found in crystals in the gypsum, at Luneburg (Hanover), and massive, or as part of the rock of the salt mine, at Stassfurth, Prussia. At Wieliczka the rocks associated with the salt, frequently contain petrifactions of river shells, teeth of sharks, parts of crustaceans, zoöphytes, polythalerians, echinodermes, anilides, and univalves, of which some species are still living. This last remark applies especially to the red zoöphytes, which color the salt in the various localities, and which are now found living in many salt lakes. I may state here that the rock salt from Wieliczka, in Galicia, has been found by H. Rose, to contain a particular carbo-hydrogen. C 2, H s, in a state of great compression, which causes the rock salt to decrepidate when dissolved in water. The largest deposit of rock salt in Europe is at the little city of Wieliczka, in Galicia. It is situated directly under the city, and, with the exception of the spot on which the church stands, the entire city is undermined. The salt-bearing stratum is five hundred miles long, twenty broad, and twelve hundred feet deep. The mines proper are one mile seven furlongs in length, and six and a half furlongs in breadth. The amount of salt here deposited is so enormous that it would supply the wants of the entire human race for many centuries. Neither the exact time, nor the manner in which it was discovered, is exactly known. According to some, it was first discovered in 1233, by a shepherd named Wieliczek. According to others, St. Kunigunde, wife of King Bobeslaw V., of Poland, having lost her ring in a fissure of the rock, some workmen, while searching for the ring, discovered the salt. At Wielitzka the first formation met with, after passing through the soil, is a layer of sand which is followed by a layer of marl; the latter rests immediately on the first variety of salt, called the green salt (zielow söl), which contains from five to six per cent. of clay, losing, thereby, its transparency. The second variety which succeeds is white, and known under the name of spiza salt, and the last, or crystallized variety, as szybicker salt. The mines are entered by eleven shafts, and have horizontal galleries at different levels. They are divided into three parts (gruben-felder), each of which consists of three consecutive stories—Stockwerke. The upper floor is supported by wooden beams and pillars, while the lower ones rest on salt pillars. Steps are cut in the salt to connect the different galleries or stories with each other. The passages and excavations extend at present to about two hundred and seventy miles in length. The salt is mined in the usual way, by employing gunpowder, etc., but in that particular manner which the Germans call "Kammerbau." It consists in cutting out large squares, or rectangular cavities, in the solid salt, called chambers, some of them one hundred and fifty feet in height, with other dimensions in proportion. The finer qualities of salt are removed to the surface, and, without undergoing any purifying process, are sent to market; while the more impure kinds are dissolved in water, to separate the salt from the clay and adhering pieces of rock. This last operation is usually performed below ground, by partly filling one of the chambers with water, which is allowed to remain in contact with the salt until saturated, when it is pumped to the surface and evaporated by artificial heat. Some of these cavities are very large, and are used as dancing and banqueting halls on festive occasions, such as a visit of the imperial family of Austria. The dancing hall has a fine gallery of salt extending round it, and a magnificent chandelier also of salt. The chapel dedicated to St. Anthony of Padua, is the most remarkable in the mines. Its appearance on a high festival of the Church, when Pontifical High Mass is celebrated, is said to be very grand. The lights of a thousand candles are reflected in all the beauty of the rainbow, not only from the high altar, pulpit, pillars and statues, but from the very walls, since nearly every ornamentation has been manufactured from the finest salt. These mines contain sixteen small lakes, of which the salt lake, or Przykos, is six hundred and forty feet long, and forty feet deep. Several fine bridges, connecting different parts of the mine, may also be seen here. About twelve hundred men and four hundred horses are daily employed in these mines, many of whom remain for entire weeks under ground. The quantity of salt worked annually exceeds ten millions of pounds. There are two other salt mines in Austria, one at Bochnia, and the other at Stebrick Moreover, a saliferous region extends on both sides of the Carpathians, from Galicia, through Hungary and Transylvania into Wallachia and Moldavia. In Hungary rock salt is found, especially in the county of Marmoras, at Rhonaserk, Sofalva, Sandorfalva, and Huset, in Transylvania; at Kizakna, Parayd, Thorda Koloc, Szek, Desakna, Ujvar, and Maros. In the German provinces, at Ebensee, Ischl, Hallstadt, Aussee, Hallein, and Hall, in the Tyrols.

[WRITTEN FOR THE JOURNAL OF MINING.]

LEAD FIELDS OF THE UPPER MISSISSIPPI—No. Three.

GALENA.

By J. Vancleve Phillips.

The lead mines about Galena are divided into the upper and lower diggings. The valley of Galena river is cut down in the lead measures about two hundred and fifty feet, and nearly to the bottom of the lower Galena limestone, the blue limestone being about twenty feet below the river. Three or four miles up the stream the lead measures have been elevated, and blue limestone rises some twenty feet above the water. The town is built in the bottom on the lower Galena rock, and on the hill on the upper Galena rock—the altitude between the two parts of the town being two hundred and fifty feet. The country north is a succession of ridges and prairie, with groves of timber. It has a general altitude of three hundred feet above the Mississippi river. Twelve miles north-west, and twenty miles north, out of this great prairie region, rise the conical hills, known as the Sinsinawa and Platte mounds. These, as before stated, are formed of Niagara limestone, and rise three hundred feet above this prairie, and six hundred feet above the Mississipi river. The ridges about Galena are from three to five hundred yards wide, and divided by valleys, cut down from one to two hundred and fifty feet in the lead measures. It will be seen from this arrangement, that the ridges near Galena and the Mississippi river are drained of water; and that the lead measures are comparatively dry for one and two hundred feet deep. These ridges are the termination or branches of a great divide, or water shed, that has its head at the Platte mounds. The ridge, coming south from the Platte mounds, throws out hundreds of branches; being small ridges or arms that terminate in low escapements along Galena river on the east, and the Platte river and Sinsinawa creek on the west. Galena is built on the end of this ridge system, and if the filling or repletion of the lead veins is any way connected with the topographical system of the lead field, here in the points of these dry ridges about Galena would naturally be found the edge or outcrop of the system of veins, that would extend through this lead field north towards the Platte mounds. With reference to the Lower Galena "Diggings:" In coming from Dubuque, on the Illinois Central Railroad, when coming down the Mississippi at the foot of the bluffs, five miles west of Galena numerous excavations are seen, and piles of yellow earth thrown out. The rock is bare, and shows numerous vertical fissures. Here the lead ores were found in the grass roots, and made in irregular veins spangled through the rock, up and down the bluffs along the river, for two miles. This kind of vein has been worked in placers; the ore being in the sand and clay on the surface of the rock, and again in the form of pipe veins, making chambers in the limestone. This is the extreme outcrop of the lead ores along the edge of the basin of rock that lies between the Galena and the Mississippi rivers. (It should here be stated that the dip of the lead measures is from the water courses in the district, and is from seven to ten degrees, with a plane of the horizon—by this arrangement, each ridge being formed in a separate basin.) What is known as the anteclinal axis in geology, being the line from which the strata dip each way, follows under the water courses, and what is known as the synclinal line of axis follows the centre of the ridges. We are describing the lead ores that are found along the edge of this basin of the lead measures. From this point, going towards the centre of the ridge system or divide between the water courses, the ores take a more regular form, and are found in east and west, and north and south veins. What are known as the "Harris diggings," are centrally along the synclinal line of this district. The ores making in east and west veins, and yielding many millions of pounds. The mining operator in this district must keep in view the fact that the upper Galena limestone carries ore in gash veins, that are filled in parallel east and west, and vertical north and south fissures, this type of veins being limited in depth to this bed of rock. The lower Galena rock carries ores in two distinct levels or openings—the ores making in pipe veins, which run east and west, and north and south. The blue limestone is also heavy lead-bearing, and the bull limestone—the lower sill of the lead measures—is also lead-bearing; yet it must be kept in mind that the altitude above the water courses, the geographical position in the individual ridge or lead basin, and position to the lead-field proper, has a direct bearing on the filling or repletion of the lead veins in the different planes in these lead measures. Numerous other veins have been worked in this lead basin.

[WRITTEN FOR THE JOURNAL OF MINING.]

THE MINERAL WEALTH OF COLORADO.

By Dr. R. P. Stevens.

We are beginning to obtain some clear and distinct notions of the respective geological formations which combine to form the Rocky Mountains in the latitude and longitude of Pike's Peak. Ascending from the plains through the foot hills to the culminating ridge, or snowy range—which is also the divide between waters flowing into the Gulf of Mexico, and waters flowing into the Gulf of California—we have a descending scale in the geological formations. Crossing the country from the Missouri river to Denver, the plains are tertiary. Approaching this city, and extending a short distance westwards, the rocks are cretaceous; then follows a narrow strip of jurassic, before reaching the carboniferous; below (geologically) the carboniferous, comes in the silurian, and then azoic, followed by primary. Through all these series there is a constant ascent in altitude above the level of the sea. The exact line of demarkation between the more elevated series of rocks, it seems to be quite impossible to determine. Of course, which series of rocks bears minerals cannot be distinguished. Silver and lead would seem to be confined to the most ancient, gold and silver to the next succeeding in age; and gold, with gold and copper to the next following; Even whether all the coal belongs to the true carboniferous or to the cretaceous—observers are not agreed—outsiders, like the writer, do not pretend to decide; but surmise that there may be coal of *both ages* appearing at different localities. The coal on Boulder creek is carboniferous. It is only by analogy that we can make out the sequence of the rock strata below the cretaceous. Prof. Hoyden identified the true series at Laramie, and southward, having first ascertained them in the Black Hills. Carboniferous had already been made out in New Mexico. The Permian has been identified in the Guadalupe mountains. It may be that the whole series will yet be fully made out, when there shall be a thorough geological survey of the mountains. As the testimony now stands, the mineral bearing rocks of Colorado are more nearly allied to those of the Atlantic coast, than to those of the Pacific. That the gold and silver of the Rocky mountains are below the carboniferous, there seems to be no doubt; while on the Pacific side, silver is in the triassic, and gold in the jurassic, and probably also in the carboniferous. To compare the mineral wealth of the Rocky mountains in Colorado with other and better known mineral belts, I have prepared the following tables:

Mineralogical section from the mouth of Clear Creek, Colorado, westward, fifty miles:
First—Coal.
Second—Iron, (a) magnetic, (b) hematite.
Third—Copper, with gold and lead.
Fourth—Gold.
Fifth—Gold, with lead and silver.
Sixth—Silver, with lead.
Seventh—Antimony (native).
Eighth—Silver, with lead and zinc.

Note.—If explorers in Colorado would only give a little more

attention to the science of geology, while they are prospecting, they would confer a great favor on those who have not the pleasure of wandering through their richly metalliferous veins.

Mineralogical section, northwest from New York to the Shawangunk Mountains, via Sparta, New Jersey, sixty miles, as the bird flies:

First—In New Jersey, red sandstone, copper.

Second—In Primary of Highlands, Morris and Sussex Counties, a—magnetic oxides of iron, occurring in five distinct belt of veins.

b—Spathic iron ore.

c—Graphite.

Third—In metamorphic limestone, Sussex County, a—magnetic ron ore.

b—Franklinite.

c—Red oxide of zinc.

d—Galena.

Fourth—In sandstone of Shawangunk Mountain, Middle Silurian, a—Galena.

b—Copper.

Mineralogical section, running west from Deep River coal, passing through Chatham, Randolph, Davidson, Rowan to Lincolnton, N. C., one hundred and twenty miles:

First—Coal, in Chatham.

Second, a—magnetic oxide, of iron.

b—Specular, in three distinct belts; c hematite; d limonite; e black band.

Third—Manganese, Randolph Co.

Fourth—Plumbago, "

Fifth—Steatite, "

Sixth—Roofing slate.

Seventh—Gold, Randolph, Davidson, Rowan, Lincoln.

Eighth—Galena, Lincoln.

Ninth—Zinc, Lincoln.

Tenth—Copper, Chatham, Randolph, Rowan, Davidson, Lincoln.

Correspondence.

[To insure insertion of Correspondence in our columns the full name and address of the writer must be given.]

SILVER STRIKE IN NEW JERSEY.

EDITOR JOURNAL OF MINING, SIR:—It may be interesting to you to know that *silver* was discovered yesterday in considerable quantities in Berkshire Valley, about six miles from Dover, in Morris county, New Jersey. I have no objection to the fact being known, but do not wish my name mentioned in any way in connection with the fact—which I know of my own knowledge. It is about three miles from Smith's Hotel in the Valley. * * *

NEW YORK, June 28.

MINING COMPANY STATEMENTS.

MONTE CHRISTO GOLD AND SILVER MINING COMPANY—OFFICE, 413 CHESTNUT STREET, PHILADELPHIA.

We are informed by officers of this Nevada company that they have ore already at the mouth of the mine, awaiting the arrival of machinery, which is on the way.

ANNUAL REPORTS.

ST. JOSEPH LEAD COMPANY.—CAPITAL, $1,000,000; SHARES $10 EACH; OFFICE No. 6 BROAD STREET, NEW YORK:

The Trustees of this Company have submitted their report for the year ending May 10th, 1866, from which we learn that they are satisfied that their 946 22-100 acres of land in St. Francois County, Missouri, about 60 miles from St. Louis, contains exhaustless quantities of lead, easily mined. They say: "The amount of lead prepared for market during the year has been 260,126 pounds. The increase during the year has been steady and rapid, and the present yield is at the rate of about 500 pigs a month, or 430,000 pounds a year. The capacity of one reverberatory furnace is 540 pigs per month; this is the simplest and cheapest furnace, costing about $350 or $400 to build there. The two blast furnaces built last year have not given satisfaction, and owing to the great waste in working them have not been much used. Another reverberatory furnace is being built now and will be completed in about three weeks. This second furnace may be followed by a third and a fourth, and it is difficult to give any reason why these may not be multiplied as far as it is practicable to employ and accommodate men to mine and smelt the ore.

MEETINGS.

Mineral City Mining and Manufacturing Company, 158 Broadway, meet July 18th, to diminish capital stock from $15,000,000 to $100,000.

DIVIDENDS.

The Cherry Run Petroleum Company has declared its first monthly dividend of one per cent.; the Dalzell Oil Company has declared a dividend of one per cent.; and the Pittsburg and Cherry Run Oil Company two per cent.

MARKET REVIEW.

FRIDAY EVENING.

Gold—Which on this day week had fallen to 148½, gradually rose until on the 26th it reached 156½, and since then has gradually receded to 154½, the price at 2 P.M. to-day. The vibrations answering to the action caused by successive mails from Europe which, considering the warlike movements and monetary difficulties there, afford sufficient matter for speculation, while the call for cash to pay duties in consequence of the expected change in customs tariff, adds still another element of disturbance. The supply is, however, abundant, and is lent at call without interest. The loan market is easy at 5@6 per cent., with exceptional transactions at 4 per cent. Foreign exchange is quiet; bills on London at 60 days, 107@108 for commercial; 108@109 for bankers'; at short sight, 109¾@110¼; on Paris at 60 days, 5 20@5.12½, do. at short sight, 5.12½@5.10. The exportation of gold has decreased.

The amount shipped at this port for the week ending June 23, was	$ 1,408,286
Previously reported	43 534,278
Total since Jan. 1, 1866	$44.942,564
To same time last year	$17,888,627

There is an active investment demand for Government stocks, especially for the sixes of 1865. Railroad shares firm. In mining stocks Consolidated Gregory has fallen from $23.30, asked on Monday, to $19.55 to-day (Friday); Smith and Parmlee from $9.80 to $9.55; Quartz Hill from $4.50 to $3.75; Corydon, from $1.60 on Monday, has reached 2.25; Gunnel Gold from 90c. to $1.03; Rocky Mountain Gold from $3.25 to $3.50.

In Petroleum stocks there is little change. Beunehof Run Oil sold to-day at $3.25, having risen from $3 on Monday; Buchanan Farm, 32c.; Shade River, 65c. and 70c.

Iron—Until the new tariff rates are settled, the price of iron will be no doubt unsettled. Meantime, the stock of Pig, which is small, is very firmly held. Scotch pig has been sold at $46@$48. Bar iron unchanged, with an upward tendency; market quiet.

Copper.—Ingot is in better demand, owing probably to the proposed increased duty. The market is, however, quiet, with unimportant sales. Baltimore, 32@32½c.; Portage Lake, 32@32½c.; Detroit, 32½@33c.; sales of 200,000 lbs. Portage Lake, 32@32½c. gold.

Lead—Is more firmly held. Sales of 700 tons at 7c., gold.

Tin.—Pig tin is quiet, but firm. Sales of 200 slabs straits at 18½c., gold. Tin plates unchanged, with a fall of 2c. in roofing charcoal.

Spelter—Firm; sales of 26 tons Foreign at 6½c., gold.

Coal.—The monthly auction sale of Scranton coal was held on Wednesday, the 27th inst. Prices showed a slight advance. The following are the figures:

8,500 tons lump coal	$6 25	@$6 40
4,500 tons steamer coal	6 62½	@ 6 87
2,500 tons grate coal	6 75	@ 7 00
3,500 tons egg coal	6 90	@ 7 00
6,000 tons stove coal	7 00	@ 7 25
4,000 tons chestnut coal	5 70	@ 5 85
24,000		

The following prices were obtained at the sale in May last:

Lump coal	$6 12½@$6 25
Steamer coal	6 37½@ 6 50
Grate coal	6 50 @ 6 62
Egg coal	6 50 @ 6 75
Stove coal	6 50 @ 6 75
Chestnut coal	5 50 @ 5 70

The Pottsville *Miner*, of June 23d, says: "The demand for coal is good, and will continue so the ensuing week, before the proposed advance of tolls, etc., after which it is likely to be dull.

The trade sums up this week as follows, compared with last year:

	1865.		1866.		
	WEEK.	TOTAL.	WEEK.	TOTAL.	INS. DEC.
P & R R R	39,561	1,157,993	93,418	1,743,801	585,809
Schul Canal	10,819	200,275	38,369	320,001	120,725
L Val R R	18,453	616,645	44,034	807,220	190,575
Lehigh Canal	29,623	185,475	59,397	263,436	112,961
Scranton, South	22,924	388,036	23,103	455,069	67,011
" North	8,309	100,534	9,836	178,057	77,723
Penn. C C					
By Railroad		118,179		132,152	d13,973
By Canal		15,273		5,863	d9,370
Del. and Hud	31,688	331,062	45,496	424,886	193,724
Wyoming, South				105,155	105,155
" North					
Shamokin	12,001	137,788	16,885	222,471	84,683
Treverton	653	10,303	763	20,860	10,557
Short Mt		16		26,592	26,576
Franklin		20,020		20,629	609
Broad Top	1,801	113,350	9,632	105,954	11,975
	175,582	3,290,432	320,933	5,182,146	
			175,582	3,390,432	
			143,351	1,781,714	

Last week the shipments over the corresponding week last year were 170,495 tons. This week it is only 143,357 tons, and hereafter the increase will diminish weekly over the corresponding period last year. The weekly shipments last year were heavy after June when the stoppage ceased.

	TONS.
The supply of coal sent to market to date in 1864 was	4,209,187
In 1865 was	5,182,146
Increase in 1866 over 1864, so far	972,959

The coal market will take this year, with low prices, over one and a half millions of tons of coal over the supply of 1864, and at least two million two hundred thousand tons over the supply of 1865."

The following is a statement of coal transported on the Delaware and Hudson Canal, for the week ending June 23d, 1866:

	WEEK.	SEASON.
Delaware and Hudson Canal Co	42,492	467,478
Pennsylvania Coal Co	706	7,873
Total tons	43,298	475,351
For the same period last year:		
Delaware and Hudson Canal Co	35,254	266,416
Pennsylvania Coal Co	712	16,181
Total tons	35,966	282,597

Petroleum—Is somewhat firmer at 24½c.@25c. for crude; 40c.@41½c. for refined in bond; and 55c.@58c. for refined free. Twenty-seven vessels are loading at Philadelphia for Europe with 76,200 barrels; six vessels cleared thence last week with 204,181 gallons refined, and 170,652 gallons crude.

FOREIGN MARKET REVIEW.

WEEKLY METAL REPORT.

LONDON, June 15, 1866.

The Metal Market, owing to the prospects of war on the Continent, shows no signs of revival, and complaints of slackness in the home trade are now becoming very general.

IRON.—Welch bars are decidedly flatter, and obtainable at about £6 10s., f. o. b., in Wales; £7 has been accepted. f. o. b., here. Great dullness prevails in Staffordshire, and the majority of the ironmasters only work half-time. Scotch Pig Iron has steadily advanced to 53s. cash.

COPPER.—The market is not quite so firm. English raw from second hand is obtainable under smelters' prices. Manufactured is steady. Business in foreign has been restricted. Burra and Wallaroo has changed hands at £86. Chili in Liverpool is somewhat easier.

TIN is steady, but very little business has been reported. Straits, £75 10s. to £77, according to quality. Banca, £78. English very dull.

TIN PLATES remain very inactive, but there are slightly better accounts from America.

LEAD is without alteration, and little doing.

SPELTER—The market has been unsettled, and all sorts of prices have been accepted. We quote spot about £19 10s. and £19 15s. to £20 for forward delivery. Special brand, outports, £20 2s. 6d.

VON DADELSZEN & NORTH.

OIL TRADE CIRCULAR.

LONDON, June 15, 1866.

We cannot report any improvement in the market during the present week. The manufacturers and speculators still show an indisposition to sell at the obtainable prices, although the brokers are endeavoring to intimidate them by rumors of large arrivals of Petroleum from America, which we are not persuaded to believe in, as we cannot lose sight of the fact that it will not pay our American friends to export into England when a less price than 2s 6d per gallon for Refined Oil is paid.

REFINED PETROLEUM.—1s. 10d. to 2s. 2d. per gallon in London.

AMERICAN CRUDE.—£17 per ton.

SPIRIT.—Without change, at 1s. 4d.

LUBRICATING OIL.—Dull. £12 to £24 per ton.

COAL OIL (Refined).—Market at 1s. 8d. to 1s. 11d. per gallon.

OYCE-RUN.—£12 10s. per ton in London is being offered for specific gravity 865°.

CRUDE.—£8 per ton in London, specific gravity 900°.

GREASE.—From £4 to £8.

PARAFFIN SCALES.—2½d. to 3½d. per lb.

PARAFFIN WAX.—1s. per lb.

STRANGE, BRO. & CO.

NEW YORK METAL MARKET.

(CORRECTED WEEKLY.)

ANTIMONY	Regulus, ₱ lb	$ 00 12½	@$ 00 13
	Crude	.. ..	.. ..
BORAX		.. 35	.. ..
BRIMSTONE		67 50	72 50
COPPER	Ingot, Lake Superior, ₱ lb., cash	.. 32¼	.. 33
	Baltimore	.. 32	.. 32½
	Pig Chili	.. ..	.. ..
	Bolts	.. 43	.. ..
	Braziers'	.. 42	.. 43
	Sheathing	.. 45	.. ..
	Yellow metal	.. 33	.. ..
IRON	Pig, No. 1 Scotch, ₱ ton	46 00	48 00
	No. 1 American	46 00	48 00
	No. 2 "	.. ..	.. ..
	No. 2 Charcoal	.. ..	.. ..
	Bar, Swedish, ordinary sizes	165 00	.. ..
	Amer. and Eng refined	120 00	130 00
	" common	110 00	115 00
	Rails, American currency	.. 85	.. ..
	" English gold	.. 56	.. ..
	Horse shoe iron	145 00	155 00
	Rods 5-8@3-16rd. and sq	122 50	180 00
	Band	150 00	.. ..
	Nail rods, 5-8 and 3-16	122 50	185 00
	Hoops	155 00	220 00
	Sheets, Russian, ₱ lb	.. 28	.. 30
	" English "	.. 6¼	.. 9
	" American "	.. 25	.. 25½
	Boiler Plates, English	.. ..	.. ..
	" American	.. ..	.. ..
STEEL	Best cast in bars, war	.. 26	.. ..
	Best sheet cast, "	.. 26	.. ..
	Best cast circular saw plates 46 in	.. 32	.. ..
	Double shear steel, war	.. 26	.. ..
	Single " "	.. 23	.. ..
	Montague & Co. C. S., in bars	.. 23	.. ..
	Round machinery cast	.. 17	.. ..
	Best German	.. 17	.. ..
	Government German	.. 14	.. ..
	Eagle German	.. 16	.. ..
	(L) Blister, war	.. 22	.. ..
	W. Jessop & Sons, blister, war	.. 20	.. ..
	Double refined	.. 28	.. ..
	Stone Axe shapes	.. 28	.. ..
	Common blister	.. 16	.. ..
	2d quality sheet	.. 23	.. ..
	3d quality sheet	.. 20	.. ..
LEAD	American, per 100 lbs	.. ..	.. ..
	German	Gold 7 00	.. ..
	Spanish	" 7 00	.. ..
	English	" 7 00	.. ..
	Bar, per 100 lbs	.. 9	.. ..
	Pipe and sheet	.. 11½	.. ..
TIN	Banca Gov., per 100 lbs. gold	.. 20½	.. 20
	Straits	.. 18½	.. 19
	English	.. ..	.. 19
TIN PLATES	IC 10-14 prime charcoal	15 50	.. ..
	IX 10-14 " "	18 50	.. ..
	IC 12-12 " "	16 00	.. ..
	IX 12-12 " "	19 00	.. ..
	IC 14-20 " "	16 50	.. ..
	IX 14-20 " "	19 50	.. ..
	IC 14-20 Roofing ch. 1st	14 75	.. ..
	IC 14-20 " " 2d	13 75	.. ..
	IC 14-20 " Coke	12 25	.. ..
	IC 10-14 Coke	12 00	14 50
SPELTER	Lehigh, per lb., gold	.. 6⅞	.. ..
	Foreign " "	.. 6½	.. 11
ZINC	Mussulman & Amer	.. 15	.. 15½
SOLDER	No. 1	.. 24	.. ..
	No. 2	.. 22	.. ..
QUICKSILVER		.. 80	.. ..

LONDON METAL MARKET.

LONDON, June 15, 1866.

		£. s. d.	£. s. d.
COPPER	Best selected, per ton	89 0 0	@.. .. ..
	Tough Cake & Tile, per ton	86 0 0	.. .. ..
	Barra Burra " "	90 0 0	.. .. ..
	Copper wire, per lb	0 0 11¾	.. .. ..
	" tubes, " "	0 0 12¼	.. .. ..
	Sheathing & Bolts, per ton	91 0 0	.. .. ..
	Bottoms " "	96 0 0	.. .. ..
	Old (Exchange)	77 0 0	.. .. ..
IRON	Bars Welsh in London	7 10 0	8 0 0
	Do. to arrive	7 10 0	7 12 6
	Nail rods	8 7 6	9 5 0
	Do. Stafford in London	8 15 0	8 17 6
	Bars " "	8 15 0	10 0 0
	Hoops " "	9 15 0	10 10 0
	Sheets, single	10 7 6	11 0 0
	Pig No. 1 in Wales	4 5 0	4 10 0
	Refined Metal, do	4 0 0	5 0 0
	Bars Common do	6 15 0	7 5 0
	Do. Merch. Tyne or Tees	7 10 0	.. .. ..
	Do. Railway in Wales	6 10 0	6 15 0
	Do. Swede in London	11 10 0	.. .. ..
	To arrive	11 10 0	.. .. ..
	Pig No. 1 in Clyde	2 11 0	2 16 0
	Do. f. o. b. Tyne or Tees	2 9 6	.. .. ..

[CONTINUED ON PAGE 221.]

NEW YORK STOCK MARKET.

MINING.	June 23. BID.	ASKED.	June 25. BID.	ASKED.	June 26. BID.	ASKED.	June 27. BID.	ASKED.	June 28. BID.	ASKED.	June 29. BID	ASKED.
Ada Elmore			3 05	....	3 00	....	3 05	3 25	....	....	3 00	....
Altona			....	....	2 25	....	2 50	....	2 50	....	2 50	....
American Flag			3 00	....	....	....	....	2 00	....	3 00	....	3 00
Atlantic & Pacific			....	....	1 75	3 00	1 80	2 80	2 10	2 50	2 00	2 50
Bates & Baxter Gold			....	....	1 50	....	1 50	2 00	1 60	2 25	1 00	....
Benton Gold			1 45	1 50	1 50	1 60	1 95	2 00	1 80	1 90	1 75	1 80
Bobtail Gold			....	....	....	3 00	....	....	....	3 00	....	....
Bullion Consol. Min'g. Co			....	....	....	....	....	....	....	....	....	....
Consolidated Gregory	22	20	22	30	19	40	19	50	20	00	20	25
Corydon			1 50	1 60	1 90	2 00	2 20	2 25	2 00	2 25	1 50	2 25
Downieville Gold			53	55	50	55	40	55	53	54	54	55
Eagle Gold			....	....	....	....	....	....	....	....	....	....
Gold Hill			....	....	....	....	....	....	....	....	....	....
Gunnell Gold			86	90	95	98	98	1 00	1 00	1 00	1 00	1 03
Gunnell Central			....	5 00	....	5 00	....	5 00	....	4 50	....	5 00
Holman			30	39	30	32	31	36	33	37	35	38
Hope Gold			2 00	3 50	2 75	3 00	2 75	3 00	2 00	3 50	3 00	3 00
Kipp & Buell Gold			1 35	1 45	1 30	1 40	1 30	1 40	1 30	1 60	1 31	1 40
Liberty Gold			....	....	....	2	....	....	....	25	....	....
Liebig Gold			60	1 00	50	....	50	1 00	50	1 00	50	55
Manhattan Gold			....	....	....	....	....	....	....	3 00	....	....
Montana			....	....	....	....	25	....	....	....	25	50
New York			35	....	40	45	40	45	44	45	45	50
Quartz Hill			3 90	4 50	3 50	4 20	3 75	4 00	3 75	4 10	3 65	3 75
Rocky Mountain Gold			2 00	3 25	3 00	3 25	3 20	3 50	3 40	3 75	....	....
Silver Eagle			....	....	....	....	....	....	....	....	....	....
Smith & Parmelee Gold			9 75	9 80	9 60	9 80	9 55	9 65	9 40	9 60	9 40	9 55
Texas Gold			....	27	....	....	....	24	15	30	....	24
Virginia City			....	50	....	....	....	50	42	50	40	50
Waddingham Gold			....	....	....	11 00	....	....	....	9 50	....	....
Bedford Copper			....	....	....	....	....	....	....	....	....	....
Caledonia Copper			....	....	....	....	....	....	....	....	....	....
Canada Copper			....	....	90	1 00	....	....	90	1 00	90	1 05
Evergreen Bluff Copper			....	....	....	....	....	....	....	....	....	....
French Creek Copper			....	....	....	....	....	....	....	....	....	....
Hilton Copper			....	....	....	....	....	....	....	....	....	....
Central Copper			....	....	....	....	....	....	....	....	....	....
Copper Falls			....	....	....	....	....	....	....	....	....	....
Sheldon & Columbian Cop			....	....	....	....	....	....	....	....	....	....
Knowlton Copper			....	....	....	....	....	....	3 75	....	....	....
Mendota Copper			....	4 00	....	....	....	4 00	....	4 00	....	4 00
Minnesota Copper			....	....	....	....	....	....	....	....	....	14 00
Norwich Copper			....	....	....	....	....	....	....	....	....	....
Ogima Copper			....	....	....	....	....	....	....	6 00	....	....
Quincy Copper			....	....	....	....	....	....	....	....	....	....
Superior Wisconsin			....	....	....	....	....	....	....	....	....	....
Deubo Lead			....	....	....	....	....	....	....	20	....	....
Phœnix Lead & Mining C			....	....	....	....	....	....	....	....	....	3 00
Redwood Lead			....	....	....	....	....	....	....	2 75	....	2 75
Wailkili Lead			....	1 00	65	1 05	60	1 00	....	1 00	75	....
Columbian Coal			....	....	....	....	....	....	....	....	....	....
Schuylkill Coal			....	....	....	....	....	....	....	....	....	....
Lake Superior			....	....	....	....	....	....	....	....	....	....
Copake Iron			....	1 00	....	1 00	....	1 00	....	1 00	....	....
Foster Iron			....	....	....	....	....	....	....	....	....	....
Annular Drill			....	....	....	....	....	....	....	....	....	....
Eagle Gold			....	....	....	....	....	....	....	....	....	....
Rockland			5 25	....	5 25	....	....	....	5 00	....	6 25	....
Isle Royal			....	....	....	....	....	....	....	....	....	12 00
British American Coal			....	....	....	....	....	....	....	....	....	....
Princeton Copper			....	....	....	....	....	....	....	....	....	....
OIL STOCKS.												
Bennehoff Run			11 90	11 95	11 75	11 95	11 90	12 50	12 10	12 50	11 75	11 95
Buchanan Farm			32	35	30	40	30	33	30	34	30	33
Central			2 50	2 65	2 40	2 60	2 30	2 50	2 15	2 50	2 05	2 45
Excelsior			40	42	42	55	42	50	43	50	42	50
First National			8	10	8	10	7	8	6	8	6	8
Ironbor			2 30	....	2 30	2 75	2 30	....	2 30	2 75	2 25	2 75
N. Y. & Allegheny			4 10	4 50	4 10	4 50	4 10	4 50	4 15	4 50	4 30	4 50
Northern Light			....	2 50	....	....	....	....	....	2 50	....	....
Oil Creek of N. Y			30	45	25	40	....	45	....	45	30	40
Pit Hole Creek			2 30	2 60	2 45	2 50	2 55	2 75	2 60	2 70	2 60	2 65
Rynd Farms			25	....	20	30	22	2-	22	27	22	30
Shade River			50	57	50	53	50	55	50	55	55	60
United States			8 29	8 30	8 65	8 70	8 50	8 70	8 00	8 20	7 75	8 00
Palmer Petroleum			....	....	....	....	....	....	....	....	....	....
Union			....	....	....	....	....	....	....	....	....	....
Empire and Pit Hole			....	....	....	....	....	....	....	....	....	....
Venango & Pit Hole			....	....	....	....	....	....	....	....	....	....
Allen Wright			....	....	....	....	....	....	....	....	....	....
Bergen Oil & Coal			....	....	....	....	....	....	....	....	....	....
Bennehoff & Pit Hole			....	....	....	....	....	....	....	....	....	....
Equitable			....	....	....	....	....	....	....	....	....	....
Fee Simple			....	....	....	....	....	....	....	....	....	....
Forest Co. Petroleum Co			....	....	....	....	....	....	....	....	....	....
Gt Western Consolidated			....	....	....	....	....	....	....	....	....	....
Guild Farm			....	....	....	....	....	....	....	....	....	....
Heydrick Bros			....	....	....	....	....	....	....	....	....	....
Homowack			....	....	....	....	....	....	....	....	....	....
Lilly Run			....	....	....	....	....	....	....	....	....	....
Oak Shade Petroleum			....	....	....	....	....	....	....	....	....	....
Penn. Oil Creek			....	....	....	....	....	....	....	....	....	....
Presidcnt			....	....	....	....	....	....	....	....	....	....
Southard			....	....	....	....	....	....	....	....	....	....
Sherman & Barnsdale			....	....	....	....	....	....	....	....	....	....
Sherman Oil			....	....	....	....	....	....	....	....	....	....
FREE LIST.												
Bennehoff Run Oil			2 86	3 00	2 65	3 00	3 15	....	2 35	3 5-	3 00	3 25
Brevoort			1 10	....	1 10	2 00	1 20	2 00	1 25	1 75	1 [illegible]	2 00
Bliven			50	....	50	....	50	1 00	50	....	50	1 00
Brooklyn			....	90	....	90	....	75	25	70	50	50
Bradley			8	10	5	10	6	10	6	10	7	9
Cherry Run Petroleum Co			....	20	....	....	15	15	....	....	....	....
Clinton Oil			1 00	2 00	1 10	2 00	1 10	....	1 00	....	1 00	2 00
Consolidated (New York)			....	1 50	....	....	....	....	....	....	....	1 50
Empire City Pet'm Co			15	30	16	25	16	20	15	30	20	30
Eclectic Oil			....	....	....	....	....	....	....	....	....	2 00
Enniskillen			....	....	....	....	....	....	....	....	....	....
Germania			....	11	....	12	9	10	9	11	....	10
Hamilton McClintock			....	2 00	....	....	....	2 00	....	2 00	1 00	1 25
Heydrick			15	23	12	....	19	25	19	25	19	....
High Gate			....	15	....	15	....	15	....	15	....	15
Liberty			....	....	....	....	....	....	....	20	....	20
Mt. Vernon			....	25	5	30	....	20	....	25	....	....
Manhattan			....	30	....	....	13	20	....	25	....	20
National			....	....	....	....	....	....	....	....	....	....
New York & Newark			6	....	....	12	11	12	8	12	....	10
New York, Phil. & Balt			10	12	....	....	....	....	....	19	....	24
Second National			....	1 00	....	....	10	1 00	30	50	....	50
Oceanic			8	10	....	12	9	....	9	10	8	10
Pepper Well			....	3 50	2 00	3 00	2 00	....	....	3 00	....	3 00
Pit Hole No. 2			....	....	....	....	....	....	....	....	....	....
Pit Hole Farms			....	1 30	....	1 30	....	1 40	....	1 25	....	1 25
Pet. Consolidation			8	....	....	....	7	14	8	15	....	....
Tack Petroleum Co., N.Y.			....	15	....	20	....	10	....	15	....	....
Union			....	....	4 00	....	3 50	....	4 00	....	4 00	....
United Petroleum Farms			21	25	....	....	20	25	20	23	20	24
West Va. Oil & Coal Co			....	....	....	....	....	....	....	....	....	....
Webster			15	....	15	....	17	....	16	....	16	25

BOSTON STOCK MARKET.

Reported for the Journal of Mining by Lombard & Co., 99 State Street, Boston.

COAL.

Companies.	June 22. BID.	ASKED.	June 23. BID.	ASKED.	June 25. BID.	ASKED.	June 26. BID.	ASKED.	June 27. BID.	ASKED.	June 28. BID.	ASKED.
Belmont	....	....	2 75	3 50	2 75	3 50	2 75	3 50	2 75	3 50	2 75	3 50
Eagle Hill Mutual	....	....	50	75	50	75	....	....	50	75	40	75
Bear Valley	....	....	....	....	....	....	....	....	....	....	....	....
Continental	....	....	....	....	....	....	50	75	....	....	....	....
Franklin	....	....	3 00	5 00	3 00	5 00	3 00	3 50	3 00	3 50	3 00	3 50
Gilberton	....	....	34 00	35 00	30 00	35 00	36 00	38 00	35 00	36 00	35 00	35 00
Glenville	....	....	2 50	5 00	2 50	5 00	2 50	5 00	2 50	5 00	2 50	5 00
Harleigh	....	....	45 00	55 00	45 00	55 00	45 00	55 00	45 00	55 00	45 00	55 00
Lackawana	....	....	5 00	7 00	5 00	7 00	5 00	7 00	5 00	7 00	5 00	7 00
Lorberry	....	....	....	....	....	....	....	....	....	....	....	....
Locust Dale	....	....	17 00	19 00	17 00	19 00	17 00	19 00	17 00	19 00	17 00	19 00
Mammoth Vein	....	....	10 00	10 50	10 00	10 50	11 50	12 00	11 00	12 00	11 00	12 00
Mount Pleasant	....	....	28 00	30 00	28 00	30 00	28 00	30 00	28 00	30 00	28 00	30 00
New England	....	....	28 00	30 00	28 00	30 00	28 00	30 00	28 00	30 00	28 00	30 00
Short Mountain	....	....	22 00	24 00	22 50	24 00	22 50	24 00	22 50	23 00	22 50	23 00
Summit Branch	....	....	12 00	13 00	11 50	13 00	11 50	13 00	12 00	14 00	12 00	14 00

MINING.

Albany and Boston	..	8	..	7	..	..	..	7	..	..	..	7
Bay State	12	13	11	13	10	12	..	11¾	..	11¾	9½	11
Boston	..	..	..	..	..	..	7/8	1	7/8	..	7/8	1
Central	..	..	..	..	..	..	..	..	..	..	..	..
Concord	3¼	4	3	4¼	3	4¼	..	4	3¼	3⅞	3⅜	..
Copper Falls	42	42½	42	..	40	41	40	42	40	..	38	..
Franklin	42	42½	41½	42	40½	41½	..	..	..	41¼	40	..
Hancock	23¾	24	23⅞	24	23⅞	24	23¾	24	23¾	23⅞	23½	..
Humboldt	..	5¾	4½	5	4½	5¾	4⅜	5	4	5	4½	..
Huron	..	..	40	..	40	..	40	43	40	41	39	..
Isle Royal	..	13	..	12	..	..	..	12	10	13	..	12
Mesnard	..	..	..	2¼	1¾	2½	1¾	2½	1¼	2⅝	1½	..
Minnesota assst. pd.	10⅜	11	10⅜	11	10⅜	10½	10	10¾	5	11	..	10¼
National	..	..	..	..	..	..	15	..	..	..	14	..
Petherick	4¾	5¼	4½	5	4¼	4¾	5	4½	5½	4¾	4¾	6
Pewabic	..	36⅜	35⅛	35¼	..	35¾	33	35	33¼	34½	..	35
Phœnix	..	10	6	10	..	10	..	9	..	9	5	9
Pittsburg	45	50	45	..	..	..	45	..	45	47	45	46½
Pontiac	1¼	1½	..	..	1	1⅜	1	1½	..	1½	..	..
Quincy	47	49	..	48½	45	49	45	48	..	45	45	47½
Rockland	5⅛	5¼	5¼	5⅛	5	5⅛	5	6	4⅞	5⅜	4⅞	5⅛
South Side	1½	..	1½	2½	..	2	1	2	1⅜	..	1	2
Star assm. pd.	1¾	..	1¾	..	..	2	1	2	1½	1⅞	1	1½
Superior	3½	3⅝	3½	3⅝	3	..	3¼	3¾	3⅛	3½	..	3½
Toltec	2¾	..	3	..	3⅝	3¾	5¼	..	9	10	10	..
Winthrop	..	2	..	2	..	2	..	..	..	..	..	..
Consolidated Gregory	14 60	14 70	14 60	14 70	12 25	13 00	19 40	20 00	20 00	21 00	20 00	21 00
Quartz Hill Gold	3 80	3 90	3 80	3 90	3 50	4 20	3 70	4 20	3 80	4 00	3 70	4 00
Smith & Parmelee Gold	9 00	9 10	9 25	9 35	9 75	10 50	9 75	10 50	9 55	10 00	9 50	10 00

PETROLEUM

Beebe Farm	5 00	6 00	5 00	6 00	4 50	6 50	4 50	6 50	4 50	6 50	4 50	6 50
Boston and Kentucky	15	30	15	30	15	30	15	30	15	30	15	30
Boston Oil Creek Land Co	15	30	15	30	15	30	15	30	15	30	15	30
Boston Petroleum Oil Co	60	2 00	60	2 00	60	2 00	60	2 00	60	2 00	60	2 00
Botolph Oil Well Co	75	1 50	75	1 50	75	1 50	75	1 50	75	1 50	75	1 50
Crescent Petroleum Co	75	1 00	75	1 00	....	1 00	....	1 00	....	1 00	....	1 00
Everett Oil Co	7	25	7	25	7	25	7	25	7	25	7	25
" " (Pref. Stock)	40	1 00	40	1 00	50	80	50	80	50	80	40	80
Farrar	4 00	6 00	4 00	6 00	4 00	6 00	4 00	6 50	4 00	6 50	4 00	6 50
Fuller Farm	15	25	15	25	15	25	15	25	15	25	15	25
Great Basin	3	20	3	20	3	20	3	20	3	20	3	20
Indian Spring	15	30	15	30	15	30	15	30	15	30	15	30
Mass. and Oil Creek	28	35	28	35	28	35	26	30	26	30	26	30
New England	6	10	6	10	6	10	6	10	6	10	6	10
New York and Boston	40	1 00	40	1 00	40	1 00	30	50	30	50	30	55
Pepper Petroleum	2 00	3 00	2 00	3 00	2 00	3 00	2 00	3 00	2 00	3 00	2 00	3 00
Pittsburgh and Boston	2	15	2	15	2	15	2	15	2	15	2	15
Tremont	2 00	3 00	2 00	3 00	2 00	3 00	2 00	3 00	2 00	3 00	2 00	3 00
Suffolk and Oil Creek	10	30	10	30	10	30	10	30	10	30	10	30
Winthrop	2	15	2	15	2	15	2	15	2	15	2	15
Independ. of U. S. & C.W.	....	....	....	....	....	....	....	....	....	....	....	....
New York Companies.												
Bennehoff Run	11 50	11 60	11 50	11 60	11 90	12 60	11 75	12 60	11 90	12 00	12 10	12 20
Bergen Oil and Coal	....	....	....	....	....	....	....	....	....	....	....	....
Bradley	....	....	....	....	....	....	....	....	....	....	....	....
Buchanan Farm	32	34	31	35	33	34	32	33	30	40	30	33
Central	2 50	2 60	2 50	2 60	2 50	2 60	2 40	2 60	2 30	2 40	2 15	2 40
Cherry Run	18	22	15	20	15	20	15	20	....	20	15	20
Consolidated	....	....	....	....	....	....	....	....	....	....	....	....
Empire City	15	30	20	30	15	30	15	30	16	30	16	20
Empire and Pit Hole	....	....	....	....	....	....	....	....	....	....	....	....
Excelsior	40	45	40	45	40	45	40	45	42	45	42	45
Northern Light	1 00	2 00	1 00	2 00	....	2 00	....	2 50	....	2 50	....	2 50
Oceanic	....	....	....	....	....	....	....	....	....	....	....	....
Oil Creek	25	40	15	50	30	50	25	50	35	50	40	50
Palmer Petroleum	....	....	....	....	....	....	....	....	....	....	....	....
President	....	....	....	....	....	....	....	....	....	....	....	....
Pit Hole Creek	2 30	2 50	2 30	2 50	2 30	2 50	2 45	2 50	2 55	2 60	2 60	2 75
Rynd Farm	21	25	22	25	22	25	25	....	20	30	22	29
Union	....	....	....	....	....	....	....	....	....	....	....	....
Webster	....	....	....	....	....	....	....	....	....	....	....	....
Stewart's Run	....	....	30	10	30	10	30	10	30	10	30	13
United States	7 20	7 50	7 65	7 75	8 20	9 00	8 65	9 00	8 50	9 00	7 95	8 10

PRICES OF ASSAYING IMPLEMENTS.*

[CORRECTED WEEKLY.]

Smelting Furnaces	$35 00@	40 00
Cupelling "	35 00@	40 00
Scales	10 00@	30 00
Assay Balances and Weights	100 00@	200 00
Plumbago Crucibles	25@	1 50
Paris "	15@	1 25
Porcelain Evaporating Dishes	25@	5 00
Fire Tongs	75@	3 50
Hammers	1 00@	2 50
Funnels	15@	1 00
Litmus Paper, quire	1 00@	1 25
Ingot Moulds	1 25@	3 00
Flasks, Bohemian Glass	15@	1 00
Sand Baths, Iron	25@	1 00
Pipers	50@	2 00
Mortar and Pestle, Iron, Agath, etc	50@	20 00
Lamps, Gas and Alcohol	75@	5 00
Blowpipes	50@	3 00
Hydro-Oxygen Blowpipes	25 00@	125 00
Pincers, or Cutting Pipers	75@	1 50
Glass Tubes, German, etc., per lb	75@	1 50
Muffler	50@	1 50
Anvils	1 00@	2 00
Cupel Moulds	3 50@	5 00
Cupels, per doz	50@	3 50
Bone Ash, per lb	25@	50
Test Lead, "	50@	75

* These articles can be procured at the stated rates, by sending order, with remittance, to

WESTERN & COMPANY, 37 Park Row

CHEMICALLY PURE PREPARATIONS * USED IN THE VOLUMETRIC ASSAY.

Acid, Acetic	$0	75 lb
" Arsenious	0	05 oz
" Hydrocholoric	0	50 oz
" Nitric	0	60 lb
" Oxalic	0	20 oz
" Sulphuric	0	75 lb
Ammonia	0	60 lb
Baryta, Carbonate	0	20 oz
" Hydrate	0	40 oz
" Nitrate	0	12 oz
Barium, Chloride	0	12 oz
Copper, Sulphate	0	10 oz
Iodine	0	75 oz
Iron, Sesquichloride, Cryst	0	25 oz
Lead, Nitrate	0	10 oz
Mercury, Peroxide	0	20 oz
" Protonitrate	0	25 oz
" Chloride	0	20 oz
Potassa, Carbonate	0	25 oz
" Bichromate	0	15 oz
" Bichromate, Fused	0	20 oz
" Chromate	0	15 oz
" Hydrate	0	40 oz
" Ferrocyanide	0	25 oz
" Permanganate	0	18 oz
" Sulphate	0	10 oz
Silver, Nitrate	Gold 1	10 oz
Soda, Acetate	0	10 oz
" Carbonate	0	10 oz
" Hydrate	0	20 oz
" Phosphate	0	10 oz
Sodium, Chloride	0	10 oz

UNITED STATES SECURITIES.

Reported for the Journal of Mining by Messrs. MEIGS, VON SEYBOLD & CO., No. 4 Broad st., New York.

Friday Evening

LOANS. INTEREST PAYABLE IN GOLD.	AUTHORIZING ACTS.	AMOUNT OUTSTANDING.	RATE.	PRIN. PAY.	INTEREST.	WHEN PAYABLE.	OFF. PER CENT.	ASKED PER CENT
Registered Bonds.....	28 January, 1847	$9.415.250	6	1867	.....	Jan. July.	128	129
Coupon "							.....	.....
Registered Bonds.....	31 March, 1848	8,908,342	6	1868	.....	Jan. July.	124	125
Coupon "							128½	.....
Registered Bonds.....	22 June, 1860	7.022,000	5	1871	.....	Jan. July	100	.....
Coupon "							104	.....
Registered Bonds.....	14 June, 1858	20,000.000	5	1874	.....	Jan. July.	98½	.....
Coupon "							103	.....
Bonds, March 3, 1863		.....	6	1881	.....		.....	.....
Oregon War Debt		1,016.000	6	1881	.....	Jan. July.	.....	.....
Registered Bonds.....	8 Feb. & 17 July & Aug., 1861	282.295.500	6	1881	.....	Jan. July.	106½	.....
Coupon "							.....	.....
Registered "	25 February, 1862 (5-20's)	514.780,500	6	1882	.....	May Nov.	103¼	.....
Coupon "							.....	.....
Registered "	(5-20's) new issue	100 000,000	6	1884	.....	May Nov.	103	.....
Coupon "							.....	.....
Bonds, March 3, 1865		80,734,500		1885	.....		103	.....
Registered "	(10-40's)	171 219,100	5	1904	.....	Mar. Sept.	97	97½
Coupon "							96½	97
Total April 1								

LOANS. INTEREST PAYABLE IN LAWFUL MONEY.	AUTHORIZING ACTS.	RATE.	AMOUNT OUTSTANDING.	PRINCIPAL PAYABLE.	INTEREST.	WHEN PAYABLE.	OFF.	ASKED.
Bonds, Cent'l P. R. R. Co., July 2	1864	6	$2.362.000 00	1895	.....	Jan. July	.....	.....
Bonds, Union P. R. R. Co., July 2	1864	6	2,130.000 60	1895	.....	.....	.....	.....
Temporary Loan		4		10 days' notice	.....	.....	.....	.....
Temporary Loan		5	124,561.486 00	10 days' notice	.....	.....	.....	.....
Temporary Loan		3		10 days' notice	.....	.....	.....	.....
Certificates of Indebtedness, March 1	1862	6	43.025,000 00	1 yr from date	.....	1 yr. fr. date	.....	.....
1 and 2 Years' Notes, March 3,	1863	5			.....	1 yr. fr. date	.....	.....
3 Years' Compound Interest Notes,	March 3, 1863 June 20, 1864 June 30, 1864	6	162.012.140 00	3 yrs from date	.....	At maturity		
3 Years' Treasury Notes,	March 3, 1863	7.3	.....	3 yrs from date	.....	Aug. Feb.	103¼	103⅜
3 Years' Treasury Notes, March 3,	1865	7.3	812 221,600 00	3 yrs from date	.....	June Dec.	103⅜	103⅝
3 Years' Treasury Notes, March 3,	1865	7.3	.....	3 yrs from date	.....	July Jan	103¼	103⅜
Aggregate of Debt Bearing Lawful Money Interest, April 1				Total Interest				

[CONTINUED FROM PAGE 210.]

	Do. Nos. 3, 4, f. o. b. Do.	2	6	6	2	5	6
	Railway Chairs	5	10	0	5	15	0
	Do. Spikes	11	0	0	12	0	0
LEAD	English Pig Common	20	15	0	.....		
	Do. ordinary soft	21	0	0	21	5	0
	Do. (W. B.)	22	10	0	.....		
	Do. Sheet	21	15	0	.....		
	Do. Red Lead	23	10	0	24	0	0
	Do. White	27	0	0	30	0	0
	Do. Patent Shot	23	15	0	24	0	0
	Spanish	20	5	0	20	10	0
STEEL	Swedish in kegs, rolled, p ton	13	0	0	14	0	0
	Do. hammered	15	0	0	16	0	0
	Do. in faggots	16	0	0	16	10	0
	English Spring	19	0	0	23	0	0
QUICKSILVER	Per bottle	7	0	0	.....		
SPELTER	Foreign, per ton	20	0	0	.....		
	To arrive " "	20	0	0	.....		
ZINC	In Sheets	28	0	0	.....		
TIN	English Blocks	85	0	0	.....		
	Do. bars in barrels	86	0	0	.....		
	Do. refined	88	0	0	.....		
	Banca	77	0	0	.....		
	Straits	75	0	0	.....		
TIN PLATES*	IC Charcoal, 1st qu., per box	1	13	0	.....		
	IX Do., 1st quality "	1	19	0	.....		
	IC Do., 2d quality "	1	11	0	.....		
	IX Do., 2d quality "	1	17	0	.....		
	IC Coke	1	6	6	1	7	0
	IX Do	1	12	6	1	13	0
	Canada Plates, per ton In London; 20s. less at the works	13	10	0	.....		
YELLOW METAL	Sheathing, p lb	0	0	8½	.....		
	Sheets, per lb	0	0	8½	.....		
INDIAN CHARCOAL	Pigs in London	7	0	0	7	10	0

* At the works, 1s.@1s. 6d. less.

SALES OF ORES IN ENGLAND.

LEAD ORES

DATE.	TONS.	PRICE PER TON.	PURCHASERS.
June 1—Great Laxey	100	£22 5 6	Stock & Co.
—Minera	319	15 3 6	Walker, Parker & Co.
7—Min'a B'd'ry, &c.	30	13 13 6	Walker, Parker & Co.
— ditto.	4	6 19 0	ditto.

BLENDE.

DATE.	TONS.	PRICE PER TON.	PURCHASERS.
June 1—Minera	105	£ 4 0 6	Kenrick & Son.
— ditto.	63	4 0 0	ditto.
— ditto.	45	4 5 0	H. Southern.
— ditto.	27	4 18 0	ditto.
4—Coetia Llys	114	3 8 6	Vivian & Sons.
—Maes-yr-Eiwddu	59	2 3 6	Kenrick & Son.

BLACK TIN.

SOLD MAY 31.

	TONS.	C.	Q.	LBS.	P. PER T.	AMOUNT.	PURCHASERS.
Pedn-an-drea United	10	2	1	7	—	£459 16 0	Carvedras.

COPPER ORES.

SOLD AT SWANSEA, JUNE 5.

MINES.	TONS.	PRICE.	MINES.	TONS.	PRICE.
Moonta	1164	£14.350 15 6	Borehaven	297	£2,099 18 6
Wallaroo	764	5.503 17 0	Leghorn	15	151 12 0
Del Seto	81	1,005 5 0	African	1	21 3 0
Hoz de B'r'na	23	207 11 6	Cobre	558	5.987 10 0

BY WHOM PURCHASED:

NAMES.	TONS.	AMOUNT.
Vivian & Sons	524½	£4.530 19 6
Freeman & Co	116	1.467 0 0
Greenfell & Sons	194	1.665 4 0
Sims, Willyams & Co	203	2.463 2 0
Williams, Foster & Co	455½	4,463 8 3
Mason & Elkington	246½	2.879 14 6
Bankart & Sons	286½	3.332 12 3
Crown Copper Company	190½	1.439 2 9
Charles Lambert	364	4.629 7 6
Copper Miners' Company	322½	2.489 0 9
Total	2,903	£29,357 12 6

TOTAL AND AVERAGES.

	21 CWTS.	PRODUCE.	PRICE.	STANDARD.
British	297	9¾	£7 1 5	£95 12 0
Foreign	2,606	14⅛	10 9 2	89 19 6
Whole sale	2,903	13⅛	£10 2 3	£93 6 0

The following are the Government returns of the exports of articles identified with mining, the produce and manufacture of Great Britain, for the four months ending April 30, 1866; and also as compared with the four months ending April 30, 1865; extracted from the "Accounts relating to Trade and Navigation," published by the Board of Trade:

DECLARED VALUE FOR THE FOUR MONTHS ENDING APRIL 30, 1866.

	1865.	1866.	Increase.
Coals and culm		£1.494.382	£214.219
Hardware and cutlery:			
Surgical instruments	£178.017		
Agricultural instruments	147.607		
Other sorts	1.090.672	1.416.296	165.958
Machinery:			
Steam engines	402.531		
Other sorts	882.991	1.285,522	
Total		£4,196,200	
Metals:			
Iron—Pig	£452,230		
Bar	817.221		
Railroad	1.094.208		
Wire	154,605		
Ditto telegraphic	169,617		
Castings	223.412		
Hoops	597.037		
Wrought	839,936		
Old	12,934	4,361.260	1,136.391
Steel	.....	367,084	151.821
Copper—Unwrought	174.794		
Wrought	520.406		
Other sorts	21.510	716,600	
Brass	.....	76,523	6,148
Lead—Pig	209.442		
Ore	77.943	287,385	91,421
Tin—Unwrought	.....	133.774	
Tin Plates	.....	655,931	218,489
Zinc	.....	42.282	13,259
Grand total	.....	£10.837,039	£1.997.714
Less decrease:			
Machinery	.....	£434,416	
Copper	.....	388,286	
Tin, unwrought	.....	21.706	£844.408
Total increase	.....		£1,153.306

SAN FRANCISCO STOCK MARKET.

LATEST BY MAIL.

NAME.	FRIDAY, May 25. Open'g	Clos'g	Sales for week Ending May 25. Shares.	Amount.
Sierra Nevada	$.....	$.....	.....	$.....
Imperial	125	122	276	34.677 00
Gould & Curry	730	730	14	10.970 00
Chollar—Potosi	300	296	450	104,122 00
Yellow Jacket	610	595	205	120.962 00
Bullion	.....	.....	145	9,392 00
Crown Point	.....	.....	145	47.753 00
Belcher	180	195	164	44.535 00
Overman	47	27	911	48.225 00
Ophir	350	375	63	190,557 00
Hale & Norcross	970	960	10	9.481 00
Exchequer	8	9	240	9.800 00
Savage	900	830	9	7.830 00
Empire Mill	160	160	2	320 00
Alpha	.....	.....	1	190 00
Lady Bryan	.....	.....	2	182 00
Daney	10½	10½	20	210 00
Confidence	30	30	37	1,200 00
Baltimore Amer.	.....	.....	.....	.....
Central No. 2	5	5	2	10 00
Kentucky Cop. Co	.....	.....	5	60 00
Golden Rule	.....	.....	30	600 00

LATEST BY TELEGRAPH.

SAN FRANCISCO, June 20.

Name.	Bid per foot.	Name.	Bid per foot.
Gould & Curry	800	Crown Point	1000
Savage	950	Yellow Jacket	650
Cholbar-Potasi	175	Belcher	150
Ophir	275	Alpha	225
Hale and Norcross	1100	Imperial per share	95

Patent Claims.

Interesting to Miners, Millmen, Metallurgists, Oil-Men and Others.

The following claims have recently been issued from the United States Patent Office:

55,626.—PUMP FOR DEEP WELLS.—Joseph H. Davis, Alleghany City, Pa.:

I claim the enlargement, B, of the valve-chamber, A, when constructed and operating for the removal of the foot-valve, D, substantially as herein described, and for the purposes set forth.

55,683.—WATER-WHEEL.—T. W. Mahler, Rome, N. Y.:

I claim, 1st, The buckets, E, hinged on axes, b, in such a manner that they may be turned or adjusted, substantially as shown and described for the purpose specified.

2d, Connecting the axes, b, of the buckets, E, by means of arms, F, to a ring, e, adjusted through the medium of the plate or lever, G, shaft, h, and a bit, i, on said shaft working in a hole, g, in a projection, f, of ring, e, all arranged substantially as and for the purpose specified.

3d, The shaft, I, provided at its lower end with a crank, u, and pin, o, in combination with the plate or lever, G, substantially as and for the purpose set forth.

4th, The scroll, A, having greater depth than the wheel or with its top and bottom plates, p, p', respectively above and below the top and bottom rims, c, c', of the wheel, substantially as and for the purpose specified.

55,693.—DRILLING MACHINE FOR WELLS.—Gorshom Mott, Big Run, Ohio:

I claim the tripping-beam, E, having its toe, E'', shaped as shown in combination with the crank, D, substantially as and for the purpose set forth.

55,710.—REDUCING METALLIC OXYDS.—Jacob Reese, Pittsburgh, Pa.:

I claim, 1st, Deoxydizing metallic oxyds while in a molten or liquid condition, by means of hydrogen gas or a vapor of carbon or of hydro-carbon, or a mixture of such vapor or gas so that these oxyds or ores may be reduced to a metallic condition without the use of additional fuel, substantially in the manner herein-before described.

2d, The use of liquid petroleum or other liquid hydro-carbon in the manufacture of iron or steel and other metals, substantially in the manner and for the purposes herein-before described.

3d, The use of hydrogen gas for the purpose of deoxydizing metallic oxyds, substantially in the manner herein-before described.

4th, Making liquid wrought or malleable iron from the ore by subjecting the ore while in a melted condition to the action of hydrogen gas or hydro-carbureted vapor, or a vapor of carbon, or a liquid hydro-carbon, substantially as herein-before described.

5th, Making cast-steel by deoxydizing iron ore while in a molten condition, in the manner herein-before desbribed, and subjecting the pure iron thus produced to a vapor of carbon or hydro-carbon, or adding thereto a liquid carburet or hydro-carbon, until the requisite amount of carbon is added, substantially as herein-before described.

6th, Making cast-iron by deoxydizing iron ore in a melted condition, in the manner described, and supplying the requisite amount of carbon in a gaseous or liquid form, substantially as herein-before before set forth.

7th, Refining iron and steel by means of a carbon in a gaseous or liquid form, to which, after the metal has been deoxydized thereby, a sufficient amount of air, water, or steam is added to support the combustion of the carbon thus added as fuel to the melted metal.

8th, Making a belly in the lower side of the deoxydizing chamber or reducer so as to hold the charge of melted ore away from the tuyere holes in the bottom of the reducer until the reducer is raised to admit the deoxydizing vapor or liquid, substantially as herein-before described.

9th, The use of a valve on one of the trunnions of the reducer, constructed substantially as herein-before described, so as to shut off the deoxydizing vapor or liquid from entering the reducer, when in position to receive its charge, and open the communication when the reducer is restored to its position for working.

10th, The use of gas-meters, in combination with the air-cylinder and vapor-generator and reducer, for the purpose of measuring the amount of deoxydizing vapor or air admitted to the interior of the reducing chamber, substantially as herein-before described.

55,772.—OPERATING HAMMERS AND STAMPS.—Christopher R. James, assignor to himself and N. W. Condict, Jr., Jersey City, N. J.:

I claim operating a stamp or hammer by means of a piston working in a cylinder, the upper end of which is opened at proper intervals to a steam-boiler and to the atmosphere alternately, and the lower end of which is in constant communication with a reservoir of compressed air, substantially as herein specified.

And, in combination with two stamps or hammers so operated by pistons working in separate cylinders, I claim a valve and passages so opened as to bring each cylinder alternately in communication with the boiler, and so produce the action of the pistons and their attached stamp or hammers, substantially as herein specified.

Special Scientific Brevities.

☞ It sometimes happens that it is necessary to lead a belt obliquely from a pulley or fly-wheel, and in such cases much trouble is frequently caused by the strap slipping off. This can, in very many instances, be prevented by fastening a strap of thick leather, of a less width than the belt, around the centre of the rim of the fly-wheel or pulley. The leather strip may be secured by counter-sunk copper screws passing through it, and tapped into the rim of the wheel.

☞ The thickness of a fibre of raw silk subtends the angle of a second at a distance of 3½ feet; a cricket ball, 2½ inches in diameter, must be removed, in order to subtend the same angel, to a distance of 43,000 feet, or nearly eight miles. An error of one-thousandth of that angle in calculating the parrallax of a fixed star would place that star too far or near by 200,000,000,000 miles, a space which light requires 118 days to traverse.

☞ The Southwestern (England) Railway Company possesses a monster engine, named the *Colossus*. It has been built to draw a train of eighty loaded wagons eighty miles in three hours, each loaded wagon weighing about ten tons. It can

drag nearly one thousand tons from London to Southampton, with almost the speed of a bird flying.

☞ Stone is now sawed in France with great rapidity and economy by using a perforated disk of iron on which a coating of lead is cast. The lead runs through the perforations and holds both the sides together. The disk is revolved rapidly and kept well supplied with emery.

☞ Sugar has been obtained by careful manipulation of a substance found in the skins of serpents, and which is isomeric with vegetable cellulose.

☞ Copper precipitated by galvanism is much harder and more dease than when cast or rolled.

Mineral and other On-dits.

☞ The most curious work at present going forward in Paris is the levelling the hill of the Trocadero, on the right bank of the Seine, opposite the bridge of Jena. One fourth of the work is already completed. The ground is mined, and four mines are fired simultaneously by means of an electric battery. A surface of more than two acres is raised by each explosion, and wagons are ready on a temporary railway to carry away the earth thus loosened.

☞ The newer coal is, in a geological sense, the poorer it is, for the coal of the carbeniferous formation is much more compact and richer in carbon than tertiary and other late coals. This is unfortunate for the gold and silver-bearing Territories, for the coal of California, Colorado and other regions in the West, is young in this geological sense. It lies in cretaceous and tertiary rocks as far as known.

☞ We have no hydraulic construction as great as the Chinese canal, no fortification as extensive as the Chinese wall; we have no artesian wells that at all approach in depth some of theirs. We have not yet resorted to the practice of obtaining coal gas from the interior of the earth; they have borings for that purpose more than 3,000 feet deep.

☞ Rankinstone shale yields thirty gallons of crude paraffine oil and twelve gallons of ammoniacal liquor per ton of shale. Several other shales in Fifeshire have been examined with similar results. The cannel coal of Hucknal Forehard Colliery, in Northamptonshire, yields forty-three gallons of oil to the ton.

☞ Coal oil is a better article for preserving sodium and potassium than naptha. In coal oil, sodium keeps its lustre for months and years, while in the purest naptha it is dimmed in a few days.

☞ The vacuum pan was patented in England in 1812 by E. C. Howard, and the royalties paid under this patent for several years amounted to £700,000 per annum.

All Sorts.

☞ The editor of the Napa *Reporter* has a chicken something similar to which must have formed the idea of the double-headed eagle of Austria. It has two heads, two bills, and four legs, all attached to one common body. The heads appear as if two had been partially sliced off at the sides, and then joined. The first pair of legs spring from their proper place, but the latter are posterior to, and spring from the rump, and are double, having united together. The chicken was taken dead from the shell, after it had been pipped.

☞ Prof. Peeper, to whom the theatres are indebted for "real" ghosts, last winter gave exhibitions in London. Among his illusions were the heads of four cherubs floating through the air, and faintly singing. They are reproductions of a picture by Sir Joshua Reynolds.

☞ From Panama we learn that the engineer intrusted with the survey of the passage supposed to exist between the Tuyra and the Atrato rivers, with the view of opening an interoceanic communication, has returned from his exploration, and has been quite successful.

☞ The best kind of candles are the stearic acid, or French candles. They are very white, could be made transparent, do not run, and burn well to the end. they melt at 158°, the highest point of any candles ever made.

☞ The Boston *Traveler* says: "It is reported that Sir Morton Peto is the backer of Gen. Fremont in his late purchase of the southwest branch of the Pacific railroad.

WHAT IS SAID OF THE "JOURNAL OF MINING" BY THE PRESS.

From the Rocky Mountain (Denver) News, June 13.

THE AMERICAN JOURNAL OF MINING.—We receive this valuable paper regularly from its office of publication, 37 Park Row, New York, and find it one of our most prized mining exchanges. It is weekly filled with valuable and interesting matter to miners and mill men, and should receive a large subscription list from Colorado.

From the London Mining Journal, May 26.

MINING LITERATURE.—Amongst the recent additions to mining literature in the New World, the AMERICAN JOURNAL OF MINING is worthy of especial mention; it is to mining and the allied sciences, as extensively circulated in the United States, what the *Scientific American* is to the mechanical sciences generally. The paper and printing are far superior to the ordinary newspapers of the States, and both skill and judgment are displayed in the editorial department. Six numbers have already appeared, and the same amount of care is apparent in all.

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"	50 "	10 00
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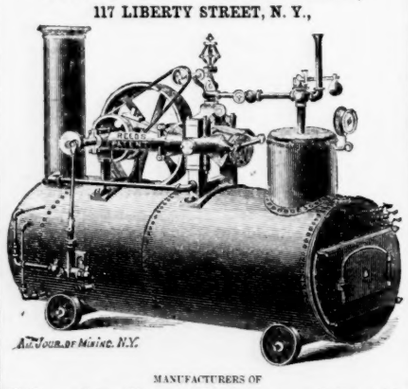

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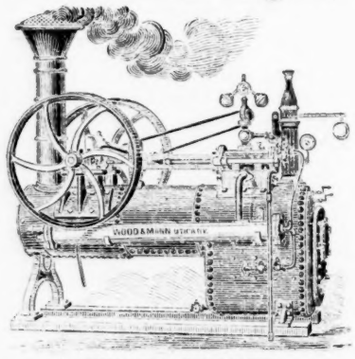

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It has a straight-needle perpendicular action, makes the LOCK or SHUTTLE STITCH, which will neither RIP nor RAVEL, and is alike on both sides; performs perfect sewing on every description of material, from Leather to the finest Nansook Muslin, with cotton, linen or silk thread, from the coarsest to the finest number.
Having neither CAM nor COG WHEEL, and the least possible friction, it runs as smooth as glass, and is emphatically
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TO CIVIL ENGINEERS.
Sealed proposals will be received at this office, till the 1st of July, 1866, for surveying and laying out a route from Corry, Pennsylvania, to New York, or some point on the Hudson, for the laying of a transportation pipe to conduct oil to sea board.
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DESIGNING,
WOOD-ENGRAVING, and
LITHOGRAPHY.
Machinery, Buildings, Landscapes, etc., Designed and Engraved or Lithographed from a photograph or a plain comprehensive sketch, or from the object itself. Specimens of work ready for inspection. Terms moderate.
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In connection with our houses in Philadelphia and Washington, we this day open an office at No. 1 Nassau street, corner of Wall, in this City.

Mr. EDWARD DODGE, late of CLARK, DODGE & CO., New York; Mr. H. C. FAHNESTOCK of our Washington house, and Mr. PITT COOKE, of Sandusky, Ohio, will be resident partners.

We shall give particular attention to the purchase and sale of GOVERNMENT SECURITIES, and to orders for purchase and sale of STOCKS, BONDS and GOLD.

JAY COOKE & Co.

New York, March 1, 1866. 1-tf

IMPORTANT TO MINING COMPANIES intending to erect Machinery in California, Nevada, Idaho, Montano, Arizona, Mexico, or any part of Pacific coast.

The fact being indisputable that many of the failures in mining operations are caused by not having machinery adapted to working the ore, it is of the first importance to start right on this point.

MR. CYRUS PALMER, one of the proprietors of the Miner's Foundry, San Francisco, has lately arrived, and will remain in New York and vicinity for some months, and is prepared to take contracts to furnish all kinds of mining machinery of the most approved style at short notice, delivered in San Francisco, or at any of the mines on the Pacific coast. He will also, if required, contract to build mills at the mines, and put them in complete running order.

Mr. Palmer has just left the Pacific coast, and is therefore, acquainted with the most approved machinery in use for reducing ore and saving the precious metals. Mr. P. has not only been actively engaged for the last ten years in manufacturing mining machinery, but has had large experience in working mines and reducing ores. On application to his address, 25 Nassau street, by letter or otherwise, he will be pleased to give any information required in regard to mining or other machinery, gratis, to any company, whether they wish to contract or not.

Mr. Palmer refers to the following companies for whom the Miners' Foundry have built mills the past year:

Knickerbocker and Nevada, 70 Ceder street; Lincoln Company 80 Broadway; Cosmos Company, 158 Broadway; Connecticut and Nevada Company, 47 Liberty street; Cobden Company, 17 Broad street; New York Company, 80 Broadway; Tarshish Company, 80 Broadway; Washington, 80 Broadway; Mettacom Company, 144 Chambers street; Consolidated Company, 157 Broadway.

Mr. Palmer can be found at the office of R. H. Vance, Esq., 25 Nassau street, corner Cedar, from 11 to 12 o'clock, daily 1-ps

THE "SHAW"
COPPER MINE.

Public attention has several times, of late, been directed to the great mineral resources of Canada East, and the riches of the copper fields have been given prominence to by Sir William Logan, in his "GEOLOGY OF CANADA;" and Mr. Herbert Williams, the Superintendent of the

HARVEY HILL MINE,

has done much, practically and by writing, to enable us to form a correct estimate of the immense value of that great mine. In the same *synclinal* there are the copper deposits of Sutton, Shefford, Stukely, Melbourne, Skipton, Chester, Halifax, Leeds, Inverness and St. Mary; and Lot on No. 9, in the 6th Range of the Township of Chester, is

THE SHAW MINE,

which at present may be viewed only as second to HARVEY HILL, from its being less developed. The Copper, which is in the form of purple and yellow sulphurets, is found in the "nacueous" slates; and "green carbonate," associated with quartz, has been discovered in several of the costeens, giving to the copper-bearing schists a considerable wealth. Mr. Herbert Williams, who is highly esteemed by Sir William Logan, as a practical mining engineer, twice visited the property, in January and November, 1865, and reports the results of operations thus:

"No. 1 opening exhibits fair samples of purple and yellow sulphurets, associated with quartz veins.

"No. 2, distant SE. from No. 1 about 200 feet, exhibits wide bands of "nacueous" slates, carrying veins of quartz. This outcrop, for a width of 50 or 60 feet, carries some promising samples of purple and yellow Sulphurets, and, also, the green carbonate in notable quantity." Mr. Williams adds: "Adjoining this, to the SE., is the "VIGER" mining locations, upon which most promising discoveries of copper ore have been made, and are now being opened up; these dip towards, and will, I believe, be found to underlie, to a very considerable extent, the SHAW property."

In November, Mr. Williams reports: "The most important operation, since my previous visit, is the sinking of a shaft, to the depth of about 27 feet, in a band of copper-bearing schist situated to the westward of the openings referred to in my first report. This band has an average width of between 4 and 5 feet, and shows some fine and promising samples of purple and yellow sulphurets of copper, some tons of which have been broken and brought to the surface. The continuation of this band, notwithstanding its being capped over in several places, is discovered by the costeens for a distance of between 500 and 600 feet, and, combined with the very promising appearance of the shaft, warrants my recommending a more vigorous trial of the property."

The contour of the lot presents many advantages for economic mining. The high ground SE. of the Craig road will admit of mining by "adit" or "cross-cut" to a very fair depth, thus dispensing with the use of expensive machinery for many years to come. There is abundance of wood on the property for all mining purposes, as well as for fuel; and one decided advantage which it possesses over the Harvey Hill Mine, is the abundant supply of water from a river passing through the property, which will enable the ore to be dressed at a very moderate cost.

The distance of this mine from the Athabaska station on the Grand Trunk Railway is 15 miles, by a moderately good road, and the transport of materials to and from the mines to that station will not exceed $5 per ton. Athabaska station is 64 miles from Quebec, and 26 from Ricomond, on the Portland route. Laborers can be found as required, and at moderate wages.

In following the course of this synclinal in a South-westerly direction, the copper-bearing slates present themselves in several places, and there is no difficulty in tracing them, notwithstanding the absence of gossan, and there are other characteristics observable by which their existence is identified—one of which is the association of chloritide with the slates. The metamorphic action of the copper on the slate is characterized by some peculiar alterations wherever the copper is in contact with it. The discovery of the existence of further quantities of copper may therefore be reasonably expected.

The advantages thus offered by the "Shaw Mine" may be thus summed up:

1st. The existence of Copper ore of available richness in large quantity, and which can be easily worked for sometime by "adit."
2d. The Mine being easily accessible, and only a short distance from the Grand Trunk Railway.
3d. Cheap transport and cheap labor.
4th. Water and wood in sufficient abundance.

These all point out, that if any Copper Mine in Canada can be worked successfully, the "Shaw Mine" offers facilities, which must place it pre-eminently in that category, and encourage its owners to look forward to no distant day for returns, which must be highly remunerative.

Address communications "Proprietors Shaw Mine," care JOURNAL OF MINING, 37 Park Row, New York City. 8-i

BULLION CONSOLIDATED MINING COMPANY, Colorado. Mines in Summit and Clear Creek Counties. Shares, 300,000; Stock, $300,000.

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having consolidated the property of the "OVERLAND STAGE LINE" and the "OVERLAND DISPATCH COMPANY"—comprising all the Overland stage lines running west from the Missouri river—and largely increased and improved their stock and coaches, and reduced their rate of fares nearly 25 per cent, will run a

Daily Line of Coaches

to all the principal points in the gold mines of Colorado, Utah, Montana, Idaho, Nevada, California and Oregon

They are now running daily coaches from TOPEKA, (in connection with the railroad from St. Louis,) via the "Smoky Hill" route; and from ATCHISON, Kansas, (in connection with the Hannibal and St. Joseph Railroad,) and from NEBRASKA CITY and OMAHA, via DENVER CITY, Colorado, to SALT LAKE CITY, in Utah; thence connecting with their line of coaches for Virginia City and Helena, in Montana; Boise City in Idaho; Walla-Walla, Dallas City and Portland, Oregon.

At Denver City, Colorado, connecting with their double daily line of coaches for Central City, Blackhawk and Empire City.

Passengers for New-Mexico and Arizona also connect at Denver, with a tri-weekly line of coaches for Fort Union, Taos, Santa Fe and other points in these territories.

Passengers for Nevada and California connect at Salt Lake City with daily coaches for Austin, Reese River, Virginia City, Nevada, Humboldt and San Francisco, California.

This Company will also, at an early day, run a line of stages from Salt Lake City through the silver mining district of the Parahuagett Valley to Colville, at the head of navigation on the Colorado River.

RATES OF FARE:

Between Topeka, Atchison, Nebraska City, Omaha, and Denver	$125
Between same points and Salt Lake City	250
Between Denver and Salt Lake City	150
Between Salt Lake City and Boise	125
Between Salt Lake City and Virginia City	125
Through tickets from the Missouri River to Boise and Virginia City	350

TIME:

To Denver City 5 days,
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To San Francisco 16 days.

A treasure and freight express, carried on mail time, in charge of trustworthy and competent messengers, to all of the above named points.

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Illustrated Catalogues and Price Lists sent by mail.

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CARD.—Professor H. DUSSAUCE, Chemist, lately from the laboratory of the French Government, left for Europe in the middle of May, where he will reside several months. He takes occasion to inform his numerous friends that he is ready to transact any business there in the chemical line, such as buying books and apparatus, machinery, presses, etc., selling chemical patents, etc. For further information address New Lebanon, N. Y.

NEW YORK ROCK DRILL COMPANY.

OFFICE, 137 BROADWAY.

GEN. E. M. BARNUM, PRESIDENT, . . . G. A. GARDNER, SECRETARY.

This company are prepared to fill orders for Drilling Machines for all kinds of Rock work, for outside work, and for Mining.
The Machines now offered for sale are :

No. 1 Hand machine for one man, weighing 100 lbs., with 3 drills, complete,.....$ 200 00
No. 2, " two " 125 " " " 250 00
No. 3, 1 horse power Machine, weighing 150 lbs., with 8 ft. steam hose, 3 drills, complete, 450 00
No. 4, 2 " " " 250 " " " " " 850 00

No. 5. Machine for VERTICAL drilling, *without engine*, to drill holes 4 to 6 inches diameter, with timber frame on wheels, &c.....$1,000 00

No. 6, Machine (entirely of iron), drilling at any angle holes 4 to 8 inches diameter, with *nominal* 4 horse power engine (on truck, and moved by own engine), $2,500 to 3,000 00

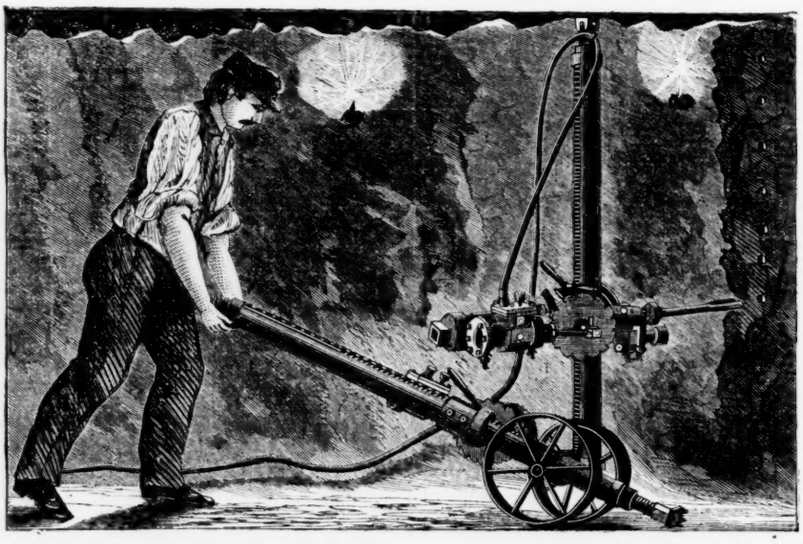
These are the only machines that have done regular work in this Country, and are the most Simple, Compact and Economical. We invite the closest scrutiny. A full sized Mining Drill can be seen daily, drilling into a block of Rockport (Mass.) Granite, the hardest Granite known, at the Machine Shop of STERLING & KERR, No. 344 and 346 West 24th street, West of 10th avenue.

GARDNER'S PATENT ROCK DRILLING MACHINE FOR MINING PURPOSES.

DRIVEN BY STEAM OR COMPRESSED AIR. G. A. GARDNER, PATENTEE, NEW YORK.

Certificate.

NEW YORK, March 25, 1866.
MR. G. A. GARDNER, Sec'y N. Y. Rock Drill Co.:
SIR—After witnessing the operation of your Rock Drilling Engines on several occasions, . . . I am satisfied that they are capable of boring much faster than by HAND in any kind of rock, and will operate with about equal efficiency at any angle in a vertical or horizontal plane; that they can work in confined spaces, such as shafts and drifts of mines, railroad tunnels, etc., etc; that several drills can be used where only one could be operated by hand labor. These Machines may be driven by compressed air. It appears to me highly probable that the time required to open mines by machinery may not be more than one-fourth of that which is now required.
The advantages resulting from such a reduction of the time can hardly be over estimated.
Very respectfully,
GEO. D. EMERSON, Mine Engineer.
Late of Lake Superior, Mich.



Certificate.

No. 95 Liberty street,
NEW YORK, March 23, 1866.
MR. G. A. GARDNER, Secretary N. Y. Rock Drill Co.
DEAR SIR: Respecting the "Gardner Drill." I would say, we used it with perfect success on the Niagara Falls Canal. When we first worked it, we drilled in the solid limestone, holes of the diameter of six inches, at the rate of eighteen inches deep, in twenty minutes.
We used it for several months on the regular work, and found it more economical and effective than any other drill we have ever used. The rock is the hardest kind of blue limestone, with occasional boulders of quartz imbedded in it. You are at liberty to refer parties to me who may desire more particulars.
S. M. ALLEN,
Late President of Niagara Falls Water Power Company

☞ This cut represents a section of a mining tunnel, or *drift*, 6x4½ feet, with two Drilling Engines; one driven by *compressed air*, drilling horizontal holes, the other being moved by the Engineer to its position on a pair of wheels *temporarily* attached to its supporting column; three of these columns, with two machines on each, may be worked in a drift of this size, producing as much working effect as fully seventy-five men. A drift of this size through solid rock (Granite for example) can be thus driven ten lineal feet every 24 hours. ☜

These machines are very compact, measuring—independent of supporting column, etc.—30 inches in length by 12 inches breadth and depth, and weighing only 250 lbs. One man can move and adjust them to the work. The supporting column is held firmly in place by setting out the jack-screw, thus bracing it between the top and bottom of tunnel, or the sides of shaft, and the machines are raised and lowered by a gear working in the rack on side of column, while the attachments to the column form a *universal joint* and allow the machines to work *at any angle*. They are automatic; one engineer can attend to a gang of four or six, working on the same face. Six of them can be worked in a heading four and a half by six feet; and in a shaft six by twelve feet, eight of them can be worked at once. In a railroad, or other large tunnel, an increased number of machines can be operated, being supported and moved upon a carriage running on rails. The blow is struck by the drill being projected by the reactive force of an india rubber spring, against the rock, the drill being as free from the working machinery at the instant of striking, as an arrow shot from a bow; 300 blows per minute can be given with the utmost force the steel drill point can bear. The cross-head to which the drill is attached is drawn back; (thus compressing the spring) by a cam rotated directly by the piston rod of an oscillating cylinder, the drill point has an automatic turning motion, and the entire machine an automatic feed, *self-regulating*, according to the varying hardness of the rock; the machine working equally well with the same adjustment when drilling on flint, or on granite cutting two inches deep per minute, or on micaslate, sandstone, or other softer rocks, cutting four and six inches per minute. They drill equally well at any angle, and with them holes can be put in the most difficult places with great facility.
Machines for open cuts have been worked for several years on railroad and canal excavations, operated by four-horse engines drilling four, six and eight-inch diameter holes, and doing the work of fifty men. Rock-Drilling can be done with these machines for one-tenth the cost of hand labor, and in one-tenth the time. We are prepared to furnish machines with *gangs of drills* for splitting granite, marble, etc.; *channelling machines* for marble, etc., when blasting is to be avoided; also machines for cutting the "BEARING IN" in Bituminous Coal Mines: we also manufacture the GARDNER PATENT DRILL POINTS, especially desirable for sinking oil wells; making round holes, requiring no reaming, and cutting faster than any other point. 2-tf

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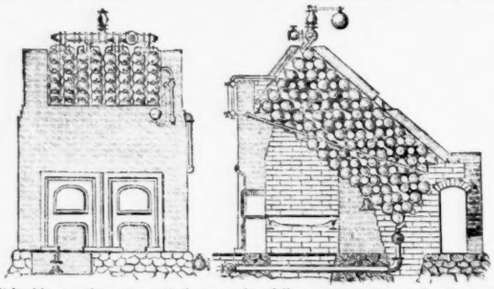
THE HARRISON BOILER.

This New Steam Generator combines essential advantages IN ABSOLUTE SAFETY FROM EXPLOSION, in first cost and cost of repairs, durability, economy of fuel, facility of cleaning and transportation, not possessed by any other boiler.

It is formed of a combination of cast iron hollow spheres—each eight inches in external diameter, and three-eighths of an inch thick, connected by curved necks. These spheres are held together by wrought iron bolts with caps at the ends. The form is the strongest known; its strength to resist internal pressure very great—unweakened as it is by punching or riveting, which lessens the strength of the wrought iron boiler plate about forty per cent. Every boiler is tested by hydraulic pressure at 300 pounds to the square inch.



IT CANNOT BE BURST UNDER ANY PRACTICABLE STEAM PRESSURE.

Under pressure which might cause rupture in ordinary boilers, every joint in this becomes a safety valve. No other steam generator possesses this property of relief, under extreme pressure without injury to itself, and thus preventing disaster.

IT IS NOT SERIOUSLY AFFECTED BY CORROSION, which soon destroys the wrought iron boiler. Most explosions occur from this cause. It has economy in fuel, equal to the best boilers, arising from the large extent and nearness to the fire of its heating surface, as also from the waved line of this surface, which, thoroughly mixing the gases, induces better combustion, and, breaking the flame, causes the heat to be more effectually absorbed than in the ordinary tubular or cylinder boiler.

IT GETS UP STEAM QUICKLY, and with little fuel. It produces superheated steam without separate apparatus, and is not liable to priming or foaming.

IT IS EASILY TRANSPORTED, and may be taken apart so that no piece need weigh more than eighty pounds. In difficult places of access, the largest boiler may be put through an opening one foot square.

IN THIS FACILITY OF TRANSPORTATION IT IS WITHOUT A RIVAL FOR REMOTE MINING DISTRICTS.

IT IS READILY CLEANED INSIDE AND OUT. Under ordinary circumstances it is kept free from permanent deposit by blowing the water entirely out under full pressure once a week. It requires no special skill in its management. Injured parts can be renewed with great facility, as they are uniform in shape and size. When renewed the entire boiler remains as good as new.

A boiler can be increased to any extent by simply adding to its width, and being the multiplication of a single form, its strength remains the same for all sizes. It has less weight and takes less than one-half the ground area of the ordinary cylinder boiler.

ANY KIND OF FUEL MAY BE USED UNDER THIS BOILER, from the most expensive, to refuse coal dust.

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